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Service Manual Monitoare PC

SAMSUNG. ML-2571.
SAMSUNG. ML-2611U.
SAMSUNG. ML-4511.
SAMSUNG. ML-4571.

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IMPORTANT NOTICE FOR SERVICE PERSONNEL BEFORE SERVICING

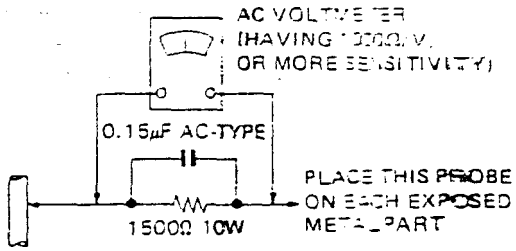
PLEASE READ BEFORE AI-TEMPTING SERVICE

1. Line voltage must be keot within ±10% of the rated voltage.
2. When operating at line voltage, confirm the DC voltage at J401 is 24V ± 0.2V (Adjust VR401).
3. DC NOT DISCHARGE, ARC, OR MEASURE HIGH VOLTAGE WHEN HIGH VOLTAGE LEAD IS CONNECTED TO CRT. DISCHARGE 2ND ANODE OF CRT ONLY AFTER HIGH VOLTAGE LEAD HAS BEENDISCONNECTED. DO NOT DISCHARGE HIGH VOLTAGE LEAD AT ANY TIME, DAMAGE TO COMPONENTS MAY RESULT.
4. Whiie the *monitor* is In coeration, do not attempt to connect or disconnect any wires.
5. Disconnect all power before attempting any repairs.
6. When the power is on, do not attempt to short any portion of the circuit. This shorting may cause damage to the components of the circuits.

SAFETY PRECAUTION

WARNING: Serive should not be attempted by anyone unfamiliar with the necessary precautions on this unit. The following precautions are necessary during servicing.

1. Same part such as a picture tube in this unit have special safety-related characteristics for X-RAY RADIATION protection. For continued safety, the parts replacement should be undertaken referring to item 2 below.
2. Many electrical and mechanical parts in this unit have special safety-related characteristics for protection against shock harzard, fire hazard and others. These characteristics are often passed unnoticed by a visual insoection and the protection afforded by them cannot necessarily be obtained by using replacement compcnents rated for higner voltage wattage, etc. Replacement parts which have these special safety characteristics are identified in this manual and its supplements by shading on the schematic diagram and the parts list. Before replacing any of these components, read the parts list in this manual carefully.
3. When replacing a chassis 'n the cabinet, always be certain that all me protective devices are installed properly, such as insulating covers, barriers, strain relief, etc.
4. Before replacing the back cover of the set, throughly inspect inside the cabinet to set that no stray parts or tools have been left inside.
5. Before returning the set to the customer, always perform an AC leakage current check on the exposed metallic parts of the cabinet, such as terminal screwheads, metal overlays, control' shafts, etc. to be sure the set is safe to operate without danger of electrical shock. Plug the AC line cord directly into a 120V AC outlet (do not use a line isolation transformer during this check). Use an AC voltmeter having 5000 ohms per volt or more sensitivity in the following manner.
   Connect a 1500 ohm, 10 watt resistor, paralleled by a 0.15μF, 250V AC capacitor, between a known good earth ground (water pipe, conduit, etc.) and the exposed metallic parts, one at a time. Measure the AC voltage across the combination of 1500 ohm resistor and 0.15μF capacitor. Reverse the AC plug at the AC outlet and repeat AC voltage measurements for each exposed metallic part. Voltage measured must not exceed 0.3 volts RMS. This corresponds to 0.2mA AC. Any value exceeding this limit constitutes a potential shock hazard and must be corrected immediately



GOOD EARTH GROUND

■ SPECIFICATIONS

1. Monitor Descrition

This 12" CRT display monitor is operated in separate drive mode input and it is compatible with IBM PS/2.

2. Display Monitor Electrical Characteristics

- Tilt : ±1° max.
- Picture linearity
  - Horizontal : 6% max.
  - Vetical : 6% max.

THEORY OF OPERATION

GENERAL

This is a high-resolution monochrome display monitor using a paper-white phosphored CRT with etched. faceplate. It uses one video signal input and separate sync signals. It can operate in all of the VGA modes.

DESCRIPTION

1. Main Board

I-1. Power Supply

This is a constant-frequency switch-mode power supply using L4960 monolithic integrated circuit. The output voltage regulation is achieved by means of variable duty cycle. The output voltage of this power supply is fed back into the pin 2 of L4960. This voltage is compared to reference voltage internally. The difference of these voltages control the duty cycle of output current. 0401 to D404, and C404 to C405 form input dc supplier. C408, C409, R404 are the components for frequency compensation, R403, C406 are for oscillation of saw-tooth wave. C407 is for soft star: of this circuit. 0405 is a flywheel diode for continuous current flowing. Output voltage is varied by adjusting VR401 potentiometer.

1-2. Horizontal Processor IC302

IC302 performs following functions.

- Horizontal oscillator
- Phase-locked loop for frequency and phase comparison.
- Phase-locked loop to compensate various delay times of the horizontal output transistor.

The sync signal from Q303 is fed info pin 3 of IC302, and flyback pulse into pin 4. This two signals are compared and the circuit is locked to a correct frequency and phase.

I-3. Horizontal Output Stage CI305

Q305 is a horizontal output switch which is closed during the scan period and opened during the flyback. It sinks a drive signal from IC302 through Q304. The flyback period is determined by the resonance of C316 and deflection yoke. C316 makes the necessary S-correction. Because of the losses in the deflection yoke. a linearity correction is required. This is achieved by L302. The horizontal screen size can be varied by adjusring L303. The high voltage of 12.5KV for CRT anode is also generated in flyback transformer by use of flyback pulse.

I-4. Vertical Processor IC 201

IC201 performs following functions.

- Vertical, oscillator
- Ramp generator
- Linearity control
- Output amplifier

There are three vertical size control: VR202, VR203, and VR204. VR202 is for mode 3, VR203 for mode 2. and VR204 for mode 1. Each mode is automatically selected by IC301.

1-5. Dynamic Focus

Q501 is used to provide dynamic focus voltage which is added to G4 voltage of the CRT. This voltage is needec to change'G4 voltage according to the angle of the beam

2 . CRT Boar;-

ICI01(M51392P) contains wide bandwidth video amp! fier, gain control, pedestal clamp and brightness contrc circuits. Q103 and Q104 form a cascode video amplifie circuit which output is applied to cathode pin of th CRT.

3. Line Filter Board

This board contains fuse and EMI filter componen

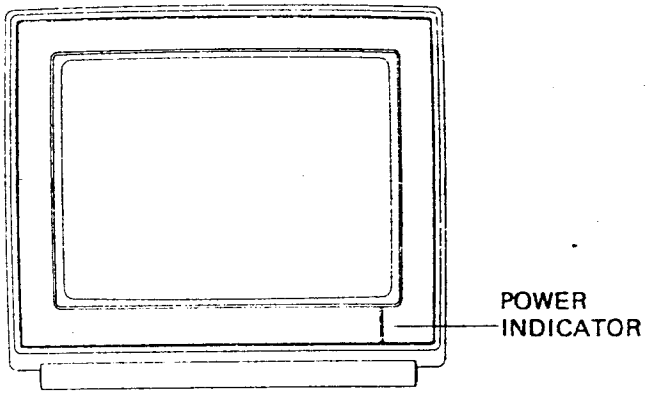
IMPORTANT : When replacing the power supply, mak sure that the green/yellow ground wi is properly attached to the main chass frame. When replacing the fuse, mak sure that the fuse is of the same ty and rating as the original.

*NOTE : The adjustment requires the connection of a pers computer to the monitor. Although the mon adjusted before it is delivered, readjustment ma required when the setting position is changed or a component is replaced.

■ MAJOR OPERATING COMPONENTS

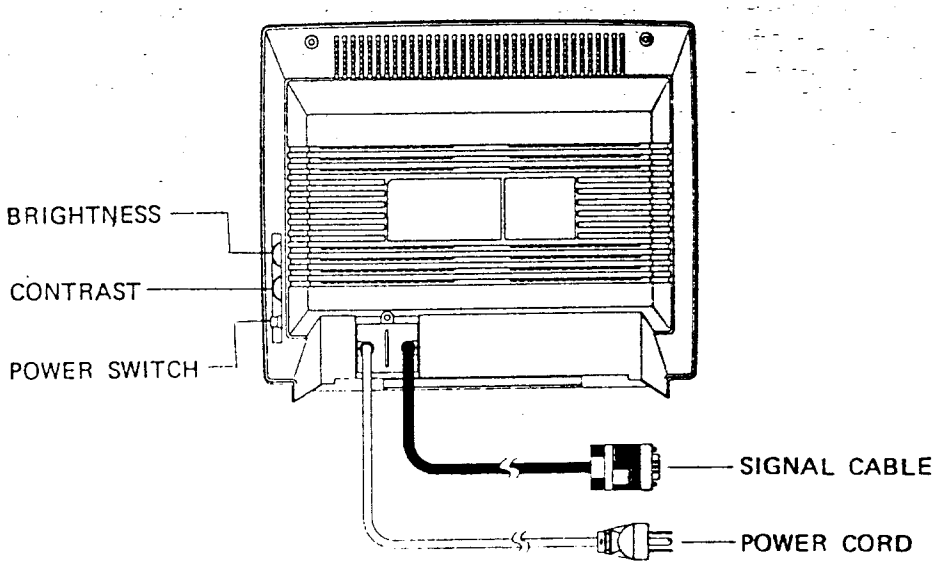
A. ML2611

1. FRONT VIEW



1) Power Indicator : To turn the monitor on, the power indicator (Green) light will go on.

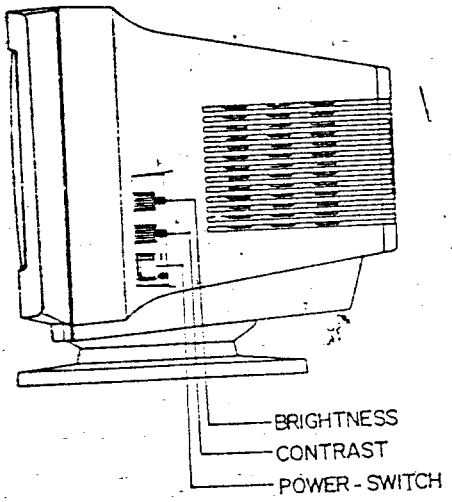
2. REAR VIEW



2) Brightness Control : Turning this control upper-side increases the overall brightness.
3) Contrast Control : Turning this control upper-side increases the display contrast.
4) Power Switch : Push the power switch to turn set ON.
5) Signal Cable : Connector at the terminal of CPU.
6) Power Cord : Connect with specified outlet.

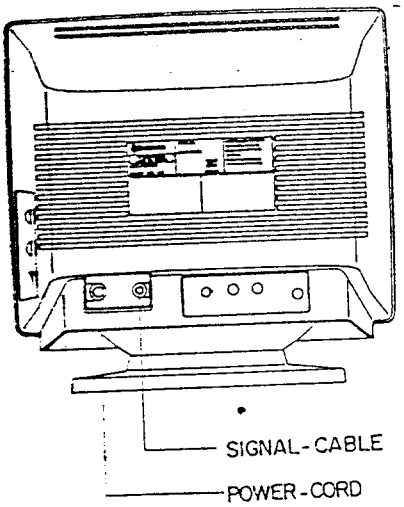
B. ML4511/ ML2571 / ML4571

1. SIDE VIEW



1) Brightness Control : Turning this control upper-side increases the overall brightness.
2) Contrast control : Turning this control upper-side increases the display contrast.
3) Power Switch : Push the power switch to turn set ON.

2. REAR VIEW



4) Signal Cable : Connector at the terminal of CPU.
5) Power Cord : Connect with specified outlet.

■ DISASSEMBLY INSTRUCTION

1. Fig. A (CABINET)
   Loosen two screws (A) holding Cover-Rear and Cover-Front, and the screw (B) in order to release the Cover-Rear from the Chassis-Frame, and the screw (C) in order to release Cover-Rear from the Back-Holder, Cord.
   Remove the Cover-Rear by pulling Cover-Rear backward while pushing the inner latches in direction of (E), using two jigs(D).
2. Fig. B (PWB's)

1) The CRT must be discharged firstly. Refer to the high voltage discharge procedure for important safety precautions.
2) Remove the CRT's anode cap(a) from the CRT.
3) Disconnect the ground lead and remove the PWB-CRT from the Chassis-Frame.
4) Remove Chassis-Frame from the Cover-Front by loosening screws (b).
5) Loosen two screws (c) holding the Chassis-frame and Back-Holder, Cord.
6) Loosen five screws (d) from the Chassis-Frame to remove PWB-Main.
7) loosen two screws (e) from the Chassis-Frame and remove PWB-Power.
8) Loosen four screws (f) to remove Trans-Power from the Chassis-Frame.
9) Remove the lug-terminal from the Chassis-Frame by unscrewing (g).

FIGURE A. CABINET

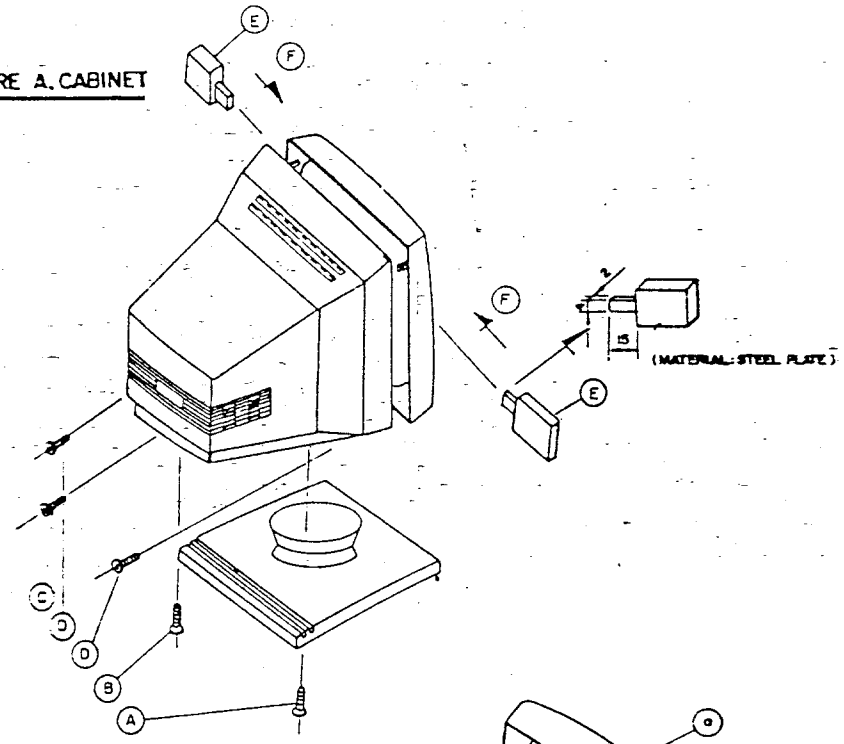
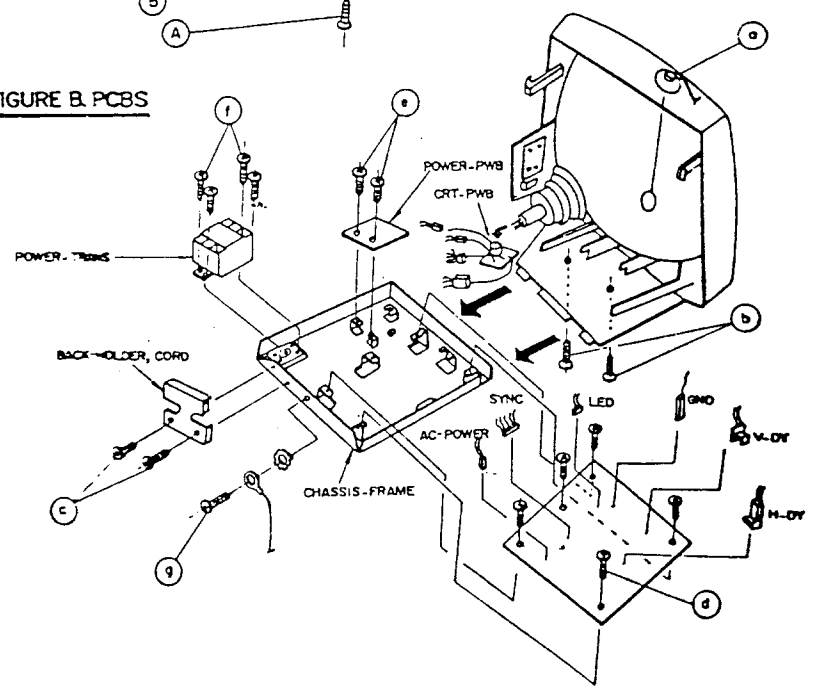


FIGURE B. PCBS



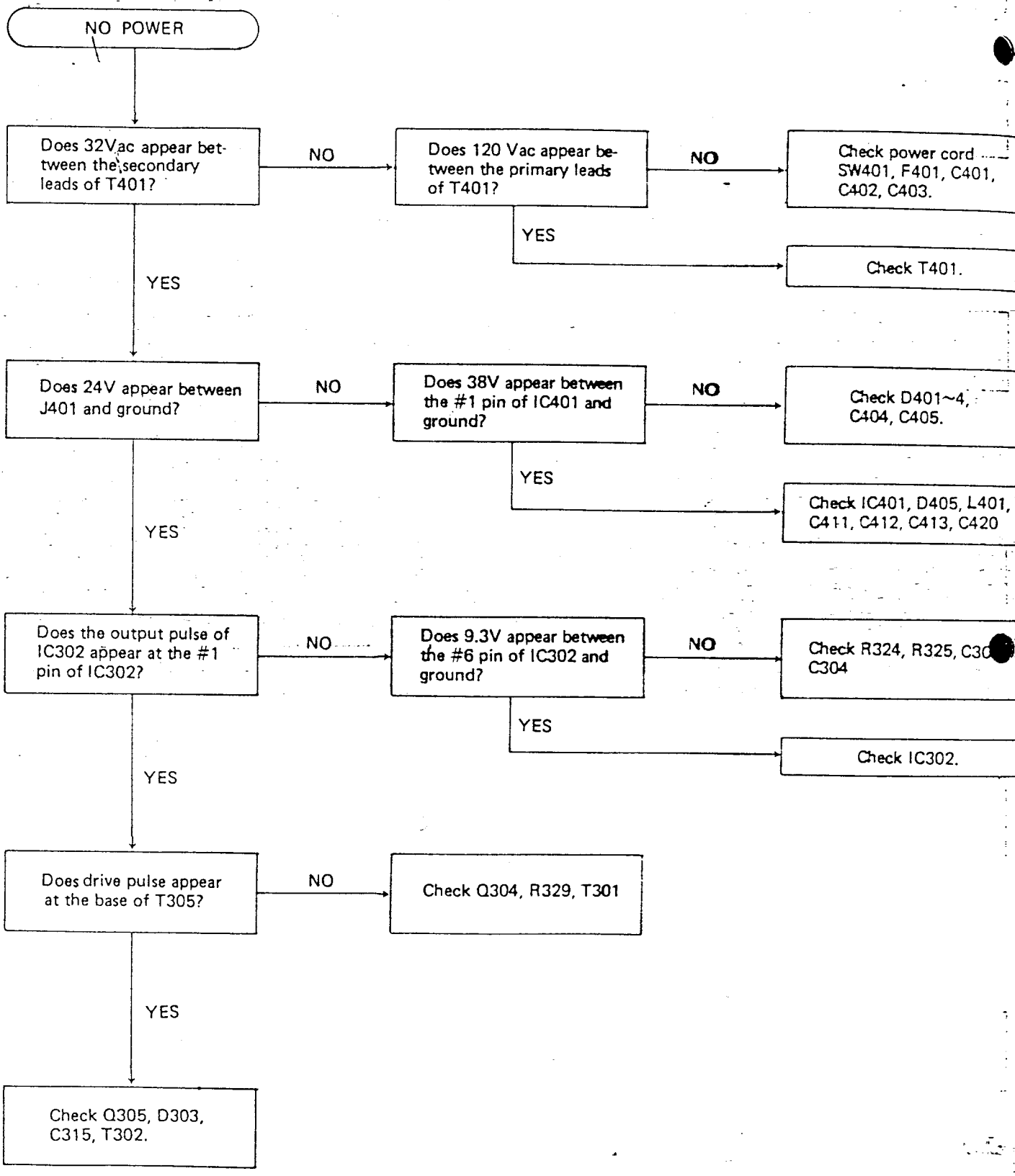
, ADJUSTMENT METHOD

SEQUENCE	ITEM	ADJUSTED BY.	GOAL	ADJ. CONDITION	REMARKS
1	B+ (FBT SUPPLY VOLTAGE)	VR401 (V-ADJST)	+24 +/-0.2V		
2	H-HOLD	VR301 (H-HOLD)	Adjust *screen* at horizontal center position of raster		
	H-LINEARITY	L302 (H-LIN.)	A same character size of Horizontal axis.	FULL CROSS HATCH PATTERN or FULL "H" PATTERN.	
4	H-WIDTH	L303	Refer to the Page 4.	(MODE3) Set FULL WHITE PATTERN and brightness 30F/L. Next, change to CROSS HATCH PATTERN.	
5	V-HOLD	VR201	Vertical free running Frequency: 54 +/-2 (Hz).	No signal.	
6	V-LINEARITY	VR205	A same character size of Vertical axis	FULL CROSSHATCH PATTERN or FULL "H" PATTERN.	
7	V'SIZE	1) VR202 (V-SIZE1) 2) VR203 (V-SIZE2) 3) VR204 (V-SIZE3)	Refer to the page 4. (MODE 3) A same sequence 7-1. (MODE2) A same sequence 7-1. (MODE1)	A same condition as the adjustment method sequence #4.	
8	CENTERING	CENTERING MAGNET OF DEFLECTION YOKE	Adjust screen at central point.		
9	TILT	DEFLECTION YOKE	Turn the DY in order to adjust within +/-1 deg. of tilt.		
10	GEOMETRIC	G/D COMPENSATION MAGNET	Adjust G/D by magnet in order to enter within overlay jig.		
11	BRIGHTNESS	VR503 (SUB-BRT.)	Adjust VR503 in order to instantly disappear the back-raster.	Center =oint (detent) of VR502 (EXT-BRT.)	
12	CONTRAST	VR101 (SUB-CONT.)	Adjust VR101 in order to make brightness to 40 +/-5F/L.	Set FULL WHITE PATTERN (MODE3). Next, set VR 102 (CONTRAST) to max.	
13	FOCUS	VR501 (FOCUS)	Adjust VR501 in order to make the total focus of the screen to optimal status.	FULL "H" PATTERN	

■ TROUBLE SHOOTING

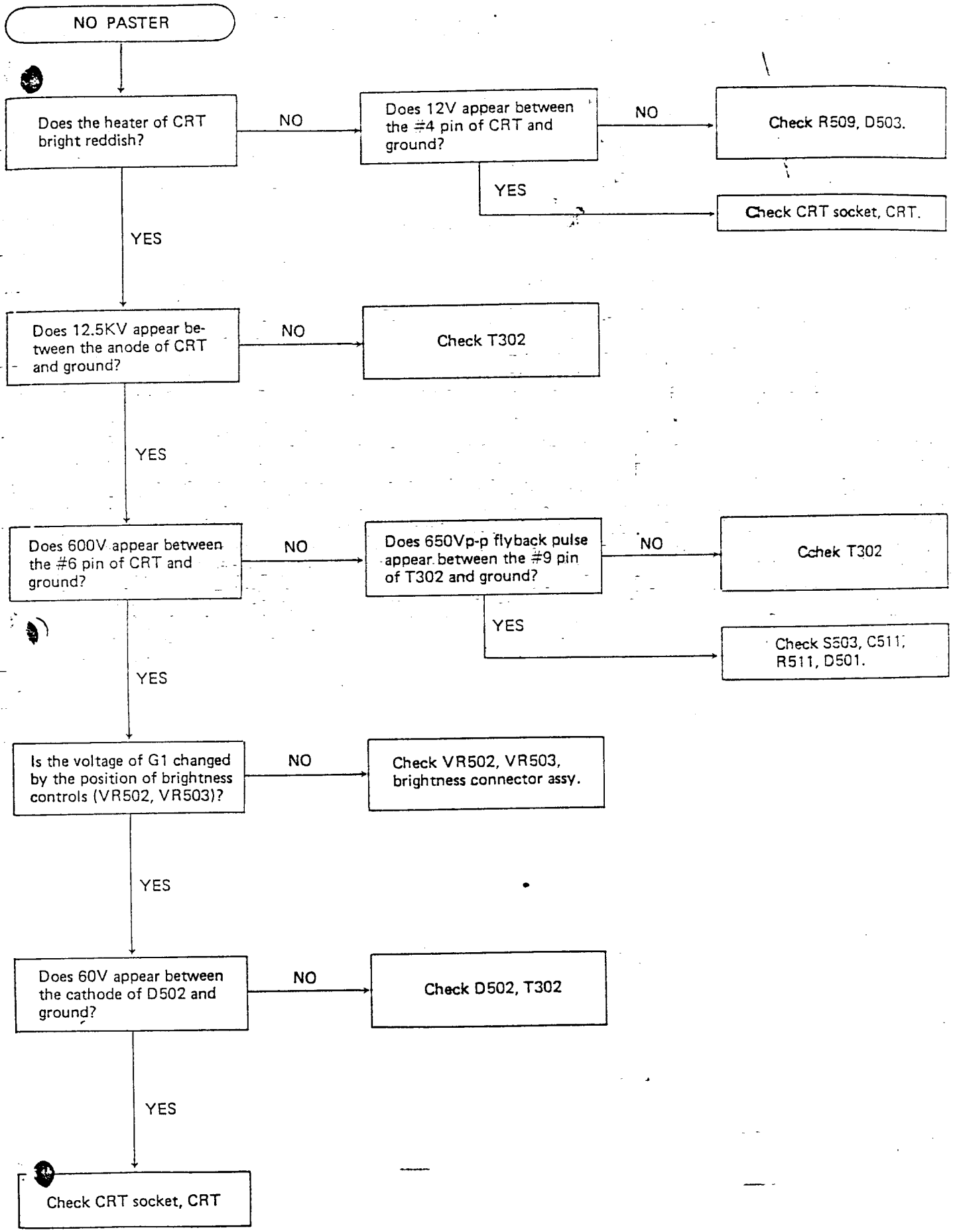
1. NO POWER

No raster appears and power indicator is not ON in spite of supplying rated AC power input.


NO POWER
Does 32Vac appear between the secondary leads of T401?
NO
Does 120 Vac appear between the primary leads of T401?
NO
Check power cord SW401, F401, C401, C402, C403.
YES
Check T401.
YES
Does 24V appear between J401 and ground?
NO
Does 38V appear between the #1 pin of IC401 and ground?
NO
Check D401~4, C404, C405.
YES
Check IC401, D405, L401, C411, C412, C413, C420
YES
Does the output pulse of IC302 appear at the #1 pin of IC302?
NO
Does 9.3V appear between the #6 pin of IC302 and ground?
NO
Check R324, R325, C30 C304
YES
Check IC302.
YES
Does drive pulse appear at the base of T305?
NO
Check Q304, R329, T301
YES
Check Q305, D303, C315, T302.

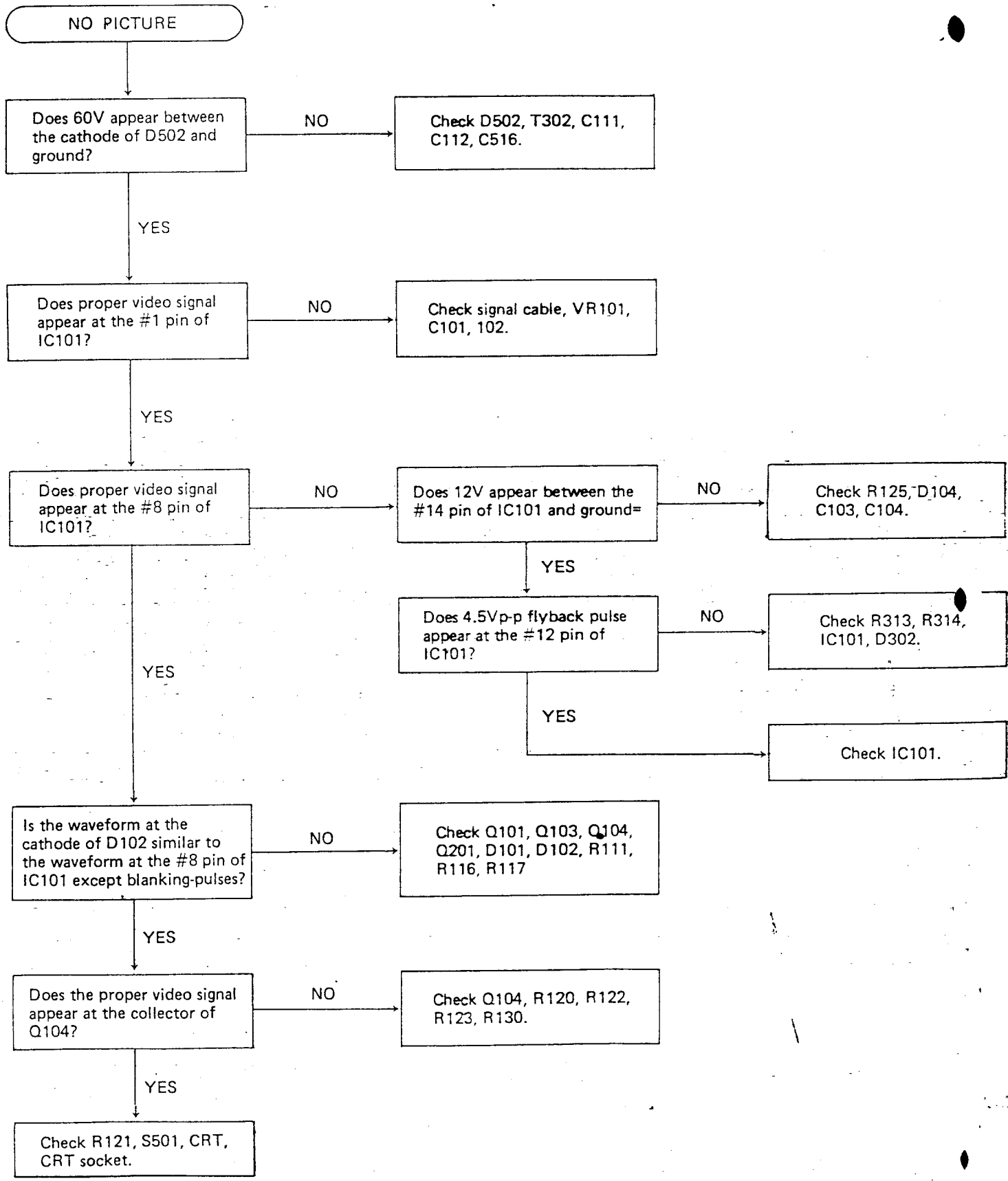
2. NO PASTER

Power supply and horizontal circuits operate normally, but there is no raster appeared.


NO PASTER
Does the heater of CRT bright reddish?
NO
Does 12V appear between the #4 pin of CRT and ground?
NO
Check R509, D503.
YES
Check CRT socket, CRT.
YES
Does 12.5KV appear between the anode of CRT and ground?
NO
Check T302
YES
Does 600V appear between the #6 pin of CRT and ground?
NO
Does 650Vp-p flyback pulse appear between the #9 pin of T302 and ground?
NO
Cchek T302
YES
Check S503, C511, R511, D501.
YES
Is the voltage of G1 changed by the position of brightness controls (VR502, VR503)?
NO
Check VR502, VR503, brightness connector assy.
YES
Does 60V appear between the cathode of D502 and ground?
NO
Check D502, T302
YES
Check CRT socket, CRT

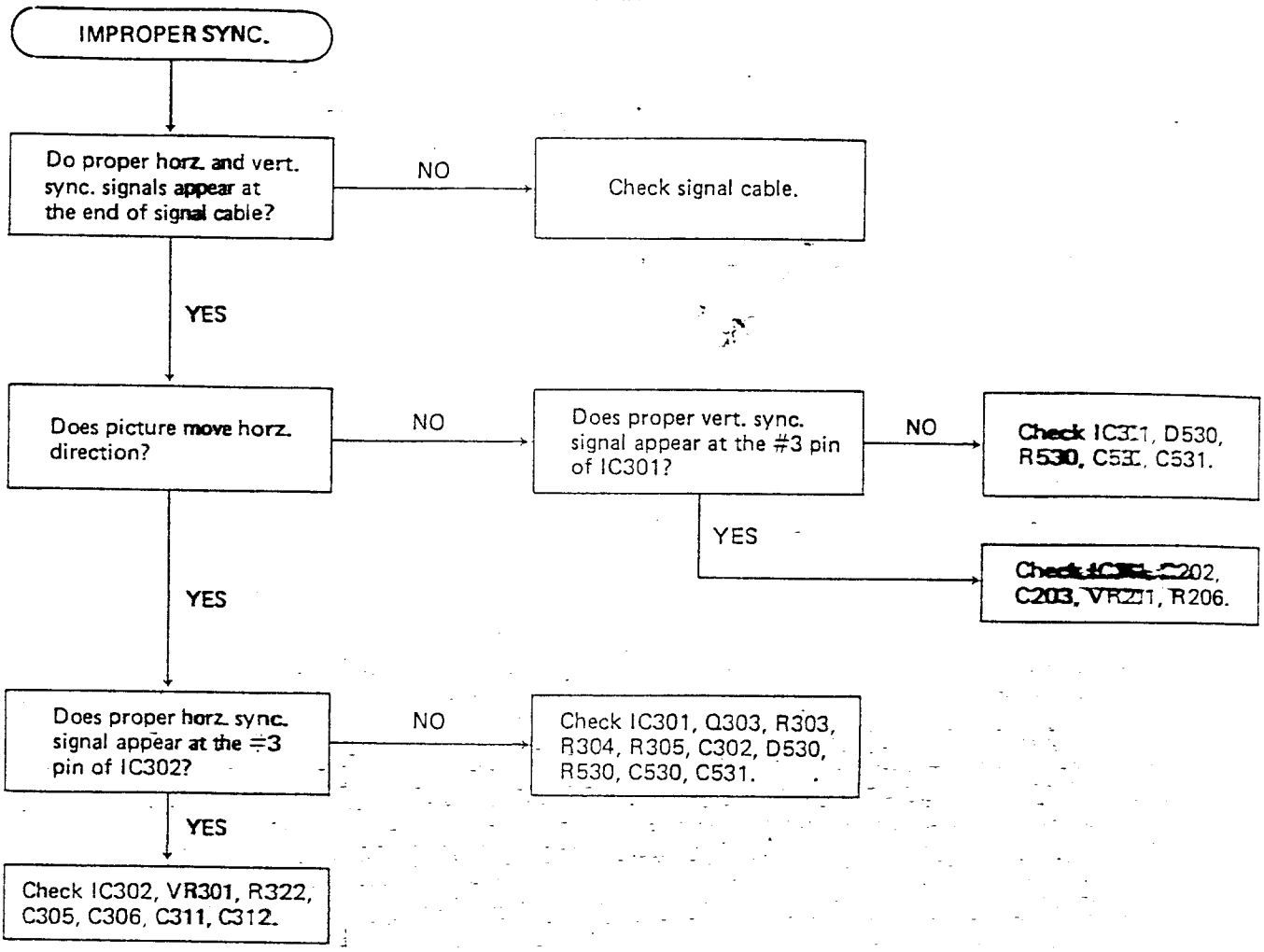
3. NO PICTURE

No picture appears on the raster in spite of connecting with proper video signal source and the other operations have no problem.


NO PICTURE
Does 60V appear between the cathode of D502 and ground?
NO
Check D502, T302, C111, C112, C516.
YES
Does proper video signal appear at the #1 pin of IC101?
NO
Check signal cable, VR101, C101, 102.
YES
Does proper video signal appear at the #8 pin of IC101?
NO
Does 12V appear between the #14 pin of IC101 and ground=
NO
Check R125, D104, C103, C104.
YES
Does 4.5Vp-p flyback pulse appear at the #12 pin of IC101?
NO
Check R313, R314, IC101, D302.
YES
Check IC101.
YES
Is the waveform at the cathode of D102 similar to the waveform at the #8 pin of IC101 except blanking-pulses?
NO
Check Q101, Q103, Q104, Q201, D101, D102, R111, R116, R117
YES
Does the proper video signal appear at the collector of Q104?
NO
Check Q104, R120, R122, R123, R130.
YES
Check R121, S501, CRT, CRT socket.

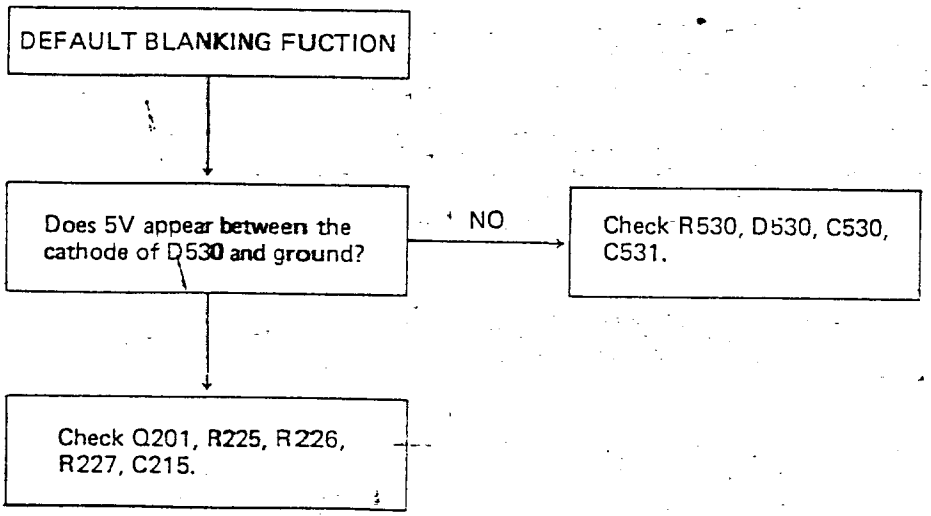
4. IMPROPER HORIZONTAL OR VERTICAL SYNCHRONIZATION

There is no stable picture. It moves horizontal or vertical direction.


IMPROPER SYNC.
Do proper horz. and vert. sync. signals appear at the end of signal cable?
NO
Check signal cable.
YES
Does picture move horz. direction?
NO
Does proper vert. sync. signal appear at the #3 pin of IC301?
NO
Check IC301, D530, R530, C530, C531.
YES
C203, VR201, R206.
YES
Does proper horz. sync. signal appear at the #3 pin of IC302?
NO
Check IC301, Q303, R303, R304, R305, C302, D530, R530, C530, C531.
YES
Check IC302, VR301, R322, C305, C306, C311, C312.

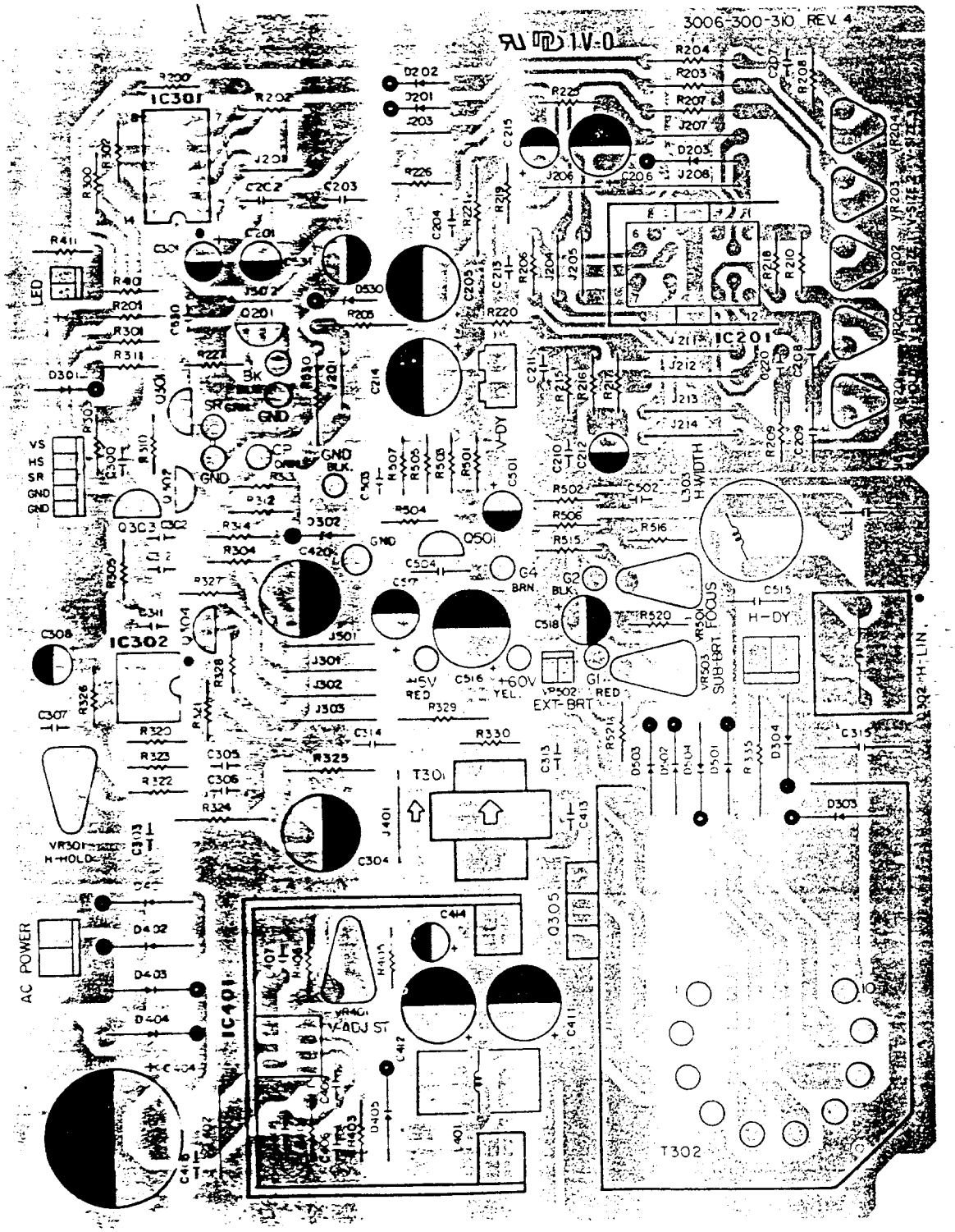
5. DEFAULT BLANKING FUNCTION

Vertical retrace line appears on the raster when the external brightness control (VR502) posits high range.

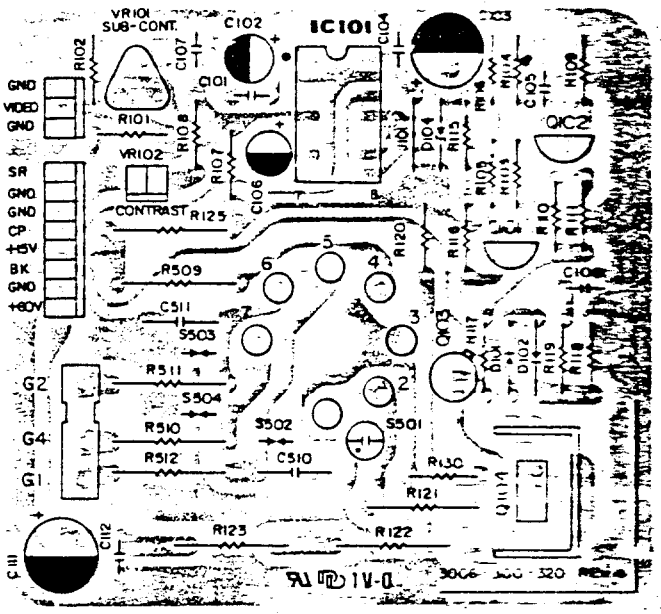

DEFAULT BLANKING FUCTION
Does 5V appear between the cathode of D530 and ground?
NO
Check R530, D530, C530, C531.
Check Q201, R225, R226, R227, C215.

■ PC BOARDS (COMPONENT SIDE)

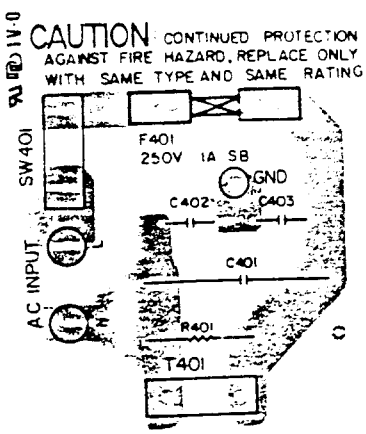
A. MAIN PCB



B. CRT SOCKET PCB

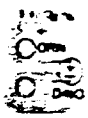


C. AC POWER FILTER PCB

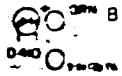


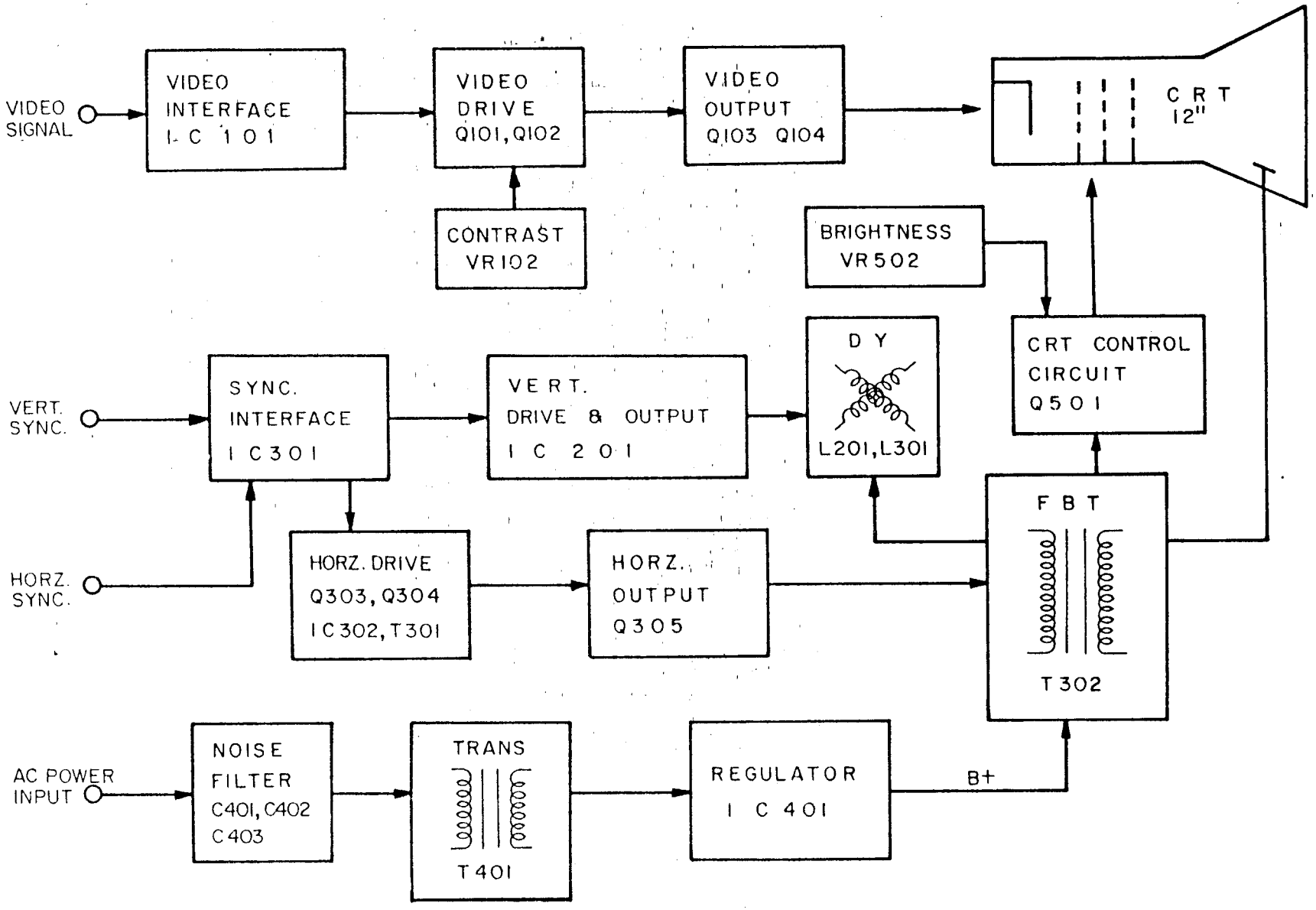
D. LED PCB

(1) For ML2511



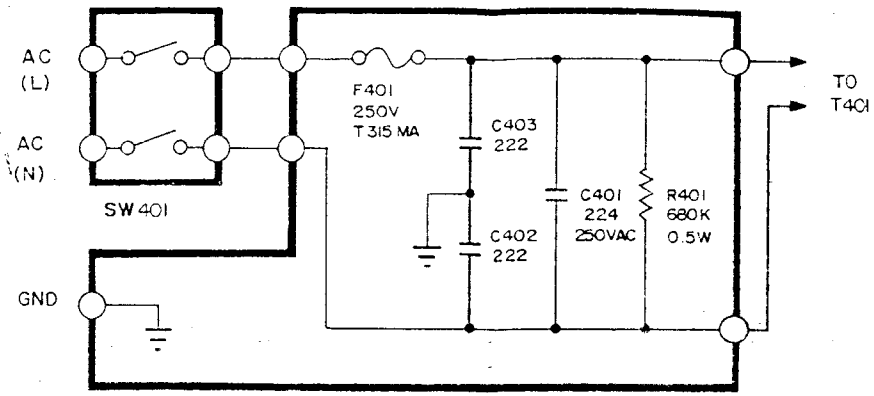
(2) For ML4511/2571/4571



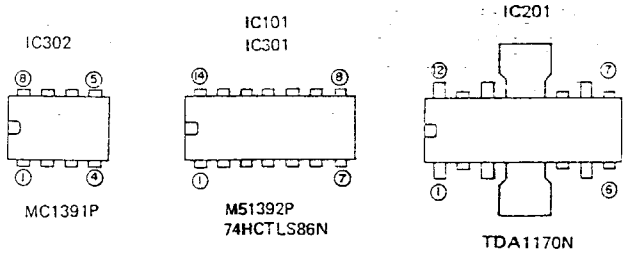

VIDEO SIGNAL
VIDEO INTERFACE I C 1 0 1
VIDEO DRIVE Q101, Q102
VIDEO OUTPUT Q103 Q104
C R T 12"
CONTRAST VR102
BRIGHTNESS VR502
D Y
L201, L301
CRT CONTROL CIRCUIT Q501
VERT. SYNC.
SYNC. INTERFACE I C 3 0 1
VERT. DRIVE & OUTPUT I C 2 0 1
HORZ. SYNC.
HORZ. DRIVE Q303, Q304 IC302, T301
HORZ. OUTPUT Q305
F B T
T302
AC POWER INPUT
NOISE FILTER C401, C402 C403
TRANS
T401
REGULATOR I C 4 0 1
B+

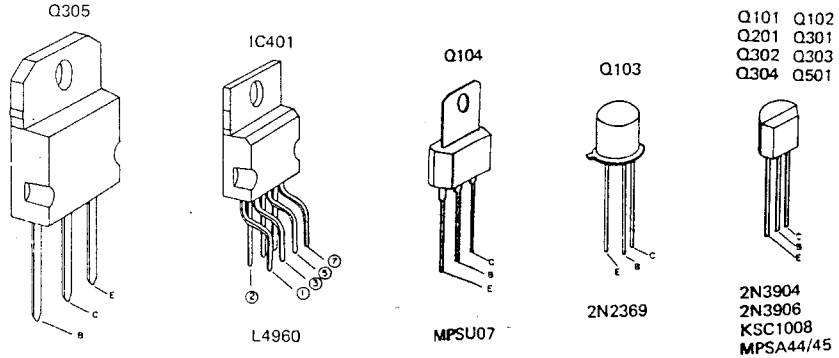
▪ SCHEMATIC DIAGRAM (2)

○ EUROPE VERSION



▪ SEMICONDUCTOR LEAD IDENTIFICATION





▪ CIRCUIT DIAGRAM DISPLAY SYMBOLS

1. Resistor
   - Resistance value
     When no unit is provided: [Ω]
     K: [kΩ]
     M: [MΩ]
   - Rated permissible power capacity
     When no display is made: 1/4 [W]
     Others: Display are provided
   - Resistor type
     Under than ½[W]: Carbon resistor
     Over than 1[W] : Oxidized metal film resistor

2. Capacitor
   - Capacitance
     When no unit is provided:
     1) Electrolytic – [μF]
     2) E.T.C – [pF]
     Others: Display are provided
   - Withstand voltage
     No display :
     1) Polyester – DC 100 [V]
     2) E.T.C – DC 50 [V]
     Others : DC withstand voltage [V]
     AC display : AC withstand voltage [V]
   - Capacitor type
     No type display : Ceramic and electrolytic capacitor
     P : Polyester capacitor
     MP : Metallized polyester capacitor
     PS : Polystyrene capacitor

▪ RMS MEASUREMENT RESULTS OF THE IC'S

Measured with high impedance V.T.V.M. or circuit tester under line voltage 120V AC. Voltage reading may vary ±10%. Video signal is a white pattern and mode 3.

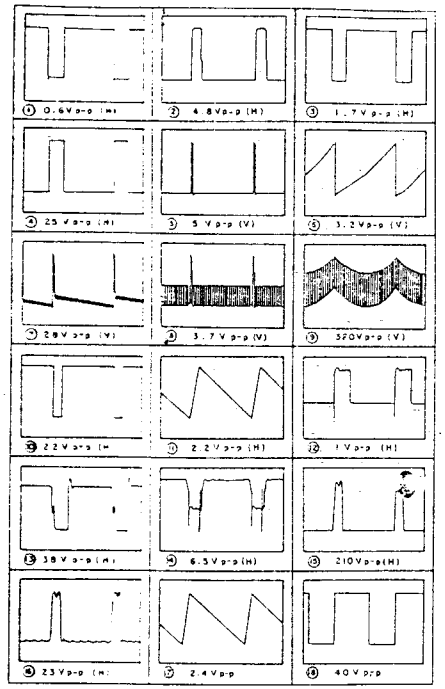
Unit: Volts

ICS / PIN NO.	IC101 M51392P	IC201 TDA1170N	IC301 74LS86	IC302 MC1391P	IC401 L4960
1	3.8	2.3	4.8	0.2	38.5
2	0	14.5	4.7	0	5.0
3	2.3	1.8	0.4	2.6	2.6
4	6.7	7.6	4.7	2.3	0
5	0	14.0	0	2.9	2.0
6	3.7	6.5	4.8	9.3	4.8
7	0	6.8	0	4.1	51.0
8	3.1	0.4	4.5	3.1	•
9	6.0	2.9	0	•	•
10	0	2.0	3.7	•	•
11	4.8	0.6	1.3	•	•
12	1.4	1.5	3.7	•	•
13	0	•	4.2	•	•
14	11.8	•	4.8	•	•

▪ WAVEFORMS

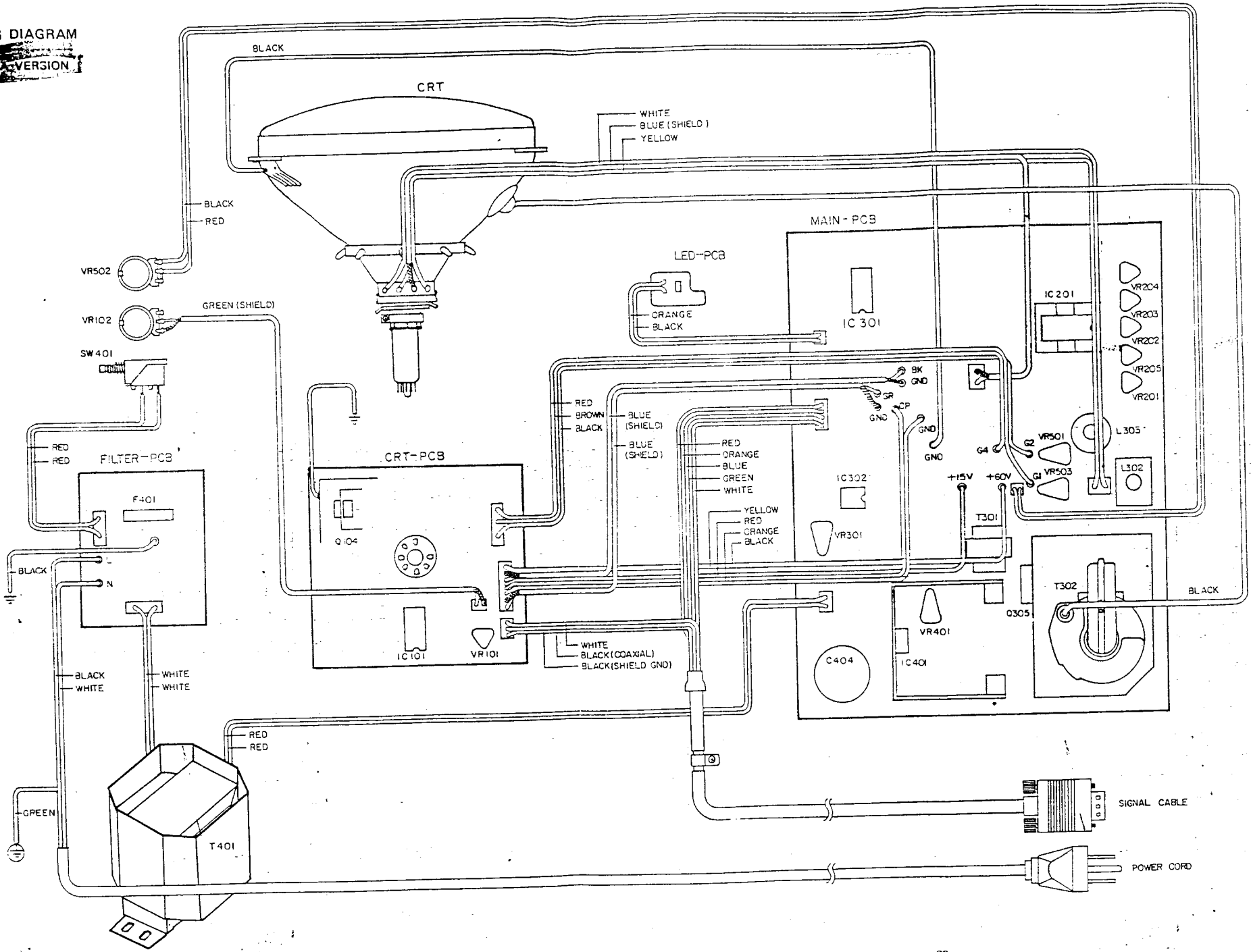
Waveform Measurement Conditions:

1. The voltage level and waveform at each point are given below on 120V AC power when this set is connected to a personal computer with a video signal input at a white pattern with contrast max.
2. ○→ indicates the waveform check points. (In the chart, waveforms are measured from the point indicated to chassis ground.)

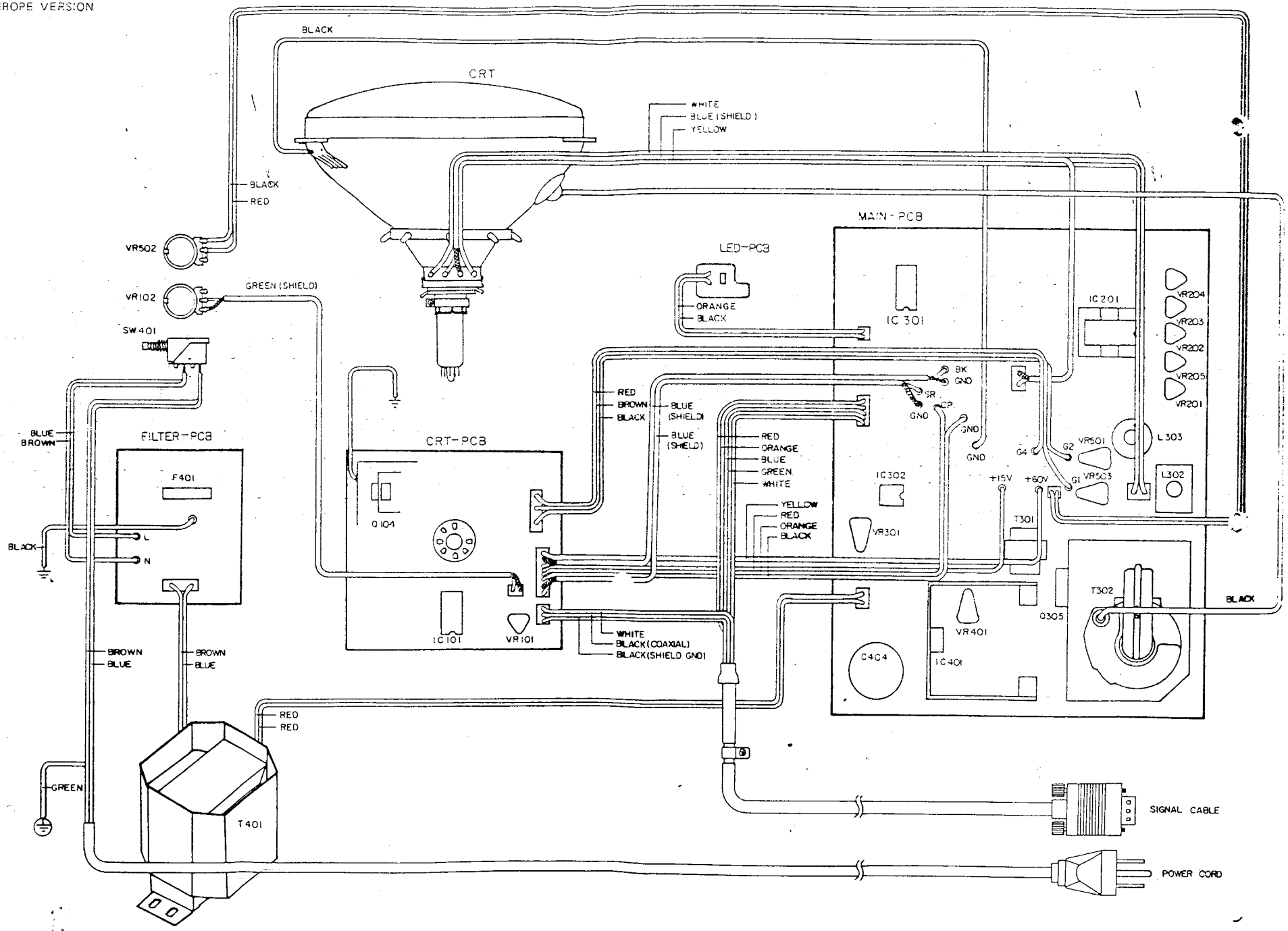


WIRING DIAGRAM

USA VERSION

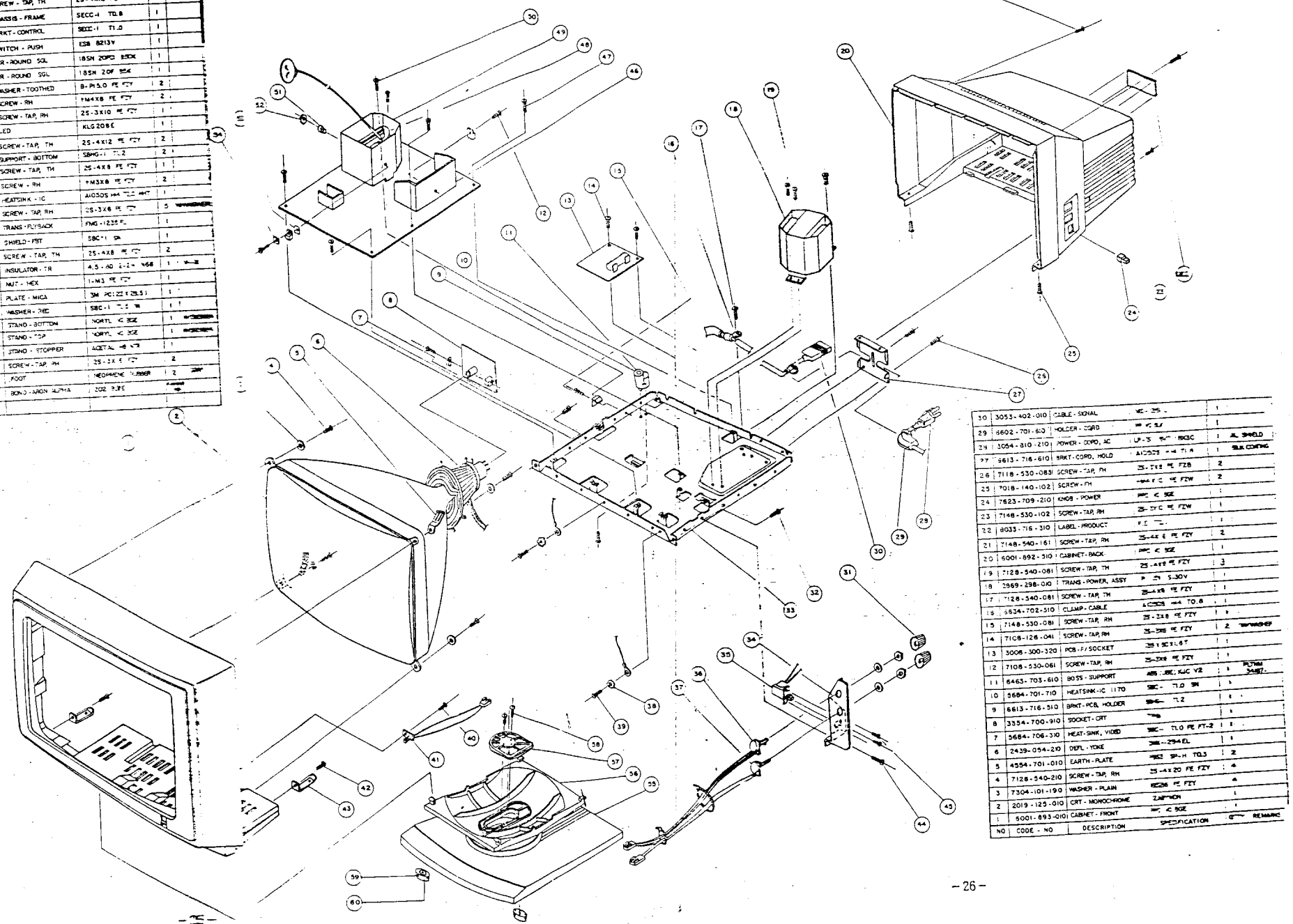


B. EUROPE VERSION



EXPLODED VIEW

A. ML2611



NO	CODE - NO	DESCRIPTION	SPECIFICATION	Q'TY	REMARK
1	7623-708-610	KNOB-VR	PPO VO BGE	2	
2	7128-540-121	SCREW - TAP, TH	2S-4X12 FE FZY	2	
3	6121-703-710	CHASSIS - FRAME	SECC-I T0.8	1	
4	6612-707-510	BRKT - CONTROL	SECC-I T1.0	1	
5	3529-702-210	SWITCH - PUSH	ESB 8213Y	1	
6	1201-105-005	VR - ROUND SGL	18SN 20PO B5K	1	
7	1201-102-022	VR - ROUND SGL	18SN 20F B5K	1	
8	7328-205-001	WASHER - TOOTHED	8-P15.0 FE FZY	2	
9	7048-140-081	SCREW - RH	+M4X8 FE FZY	2	
10	7148-530-101	SCREW - TAP, RH	2S-3X10 FE FZY	1	
11	2309-110-090	LED	KLG208E	1	
12	7128-540-121	SCREW - TAP, TH	2S-4X12 FE FZY	2	
13	6613-712-110	SUPPORT - BOTTOM	SBMG-I T1.2	2	1
14	7128-540-081	SCREW - TAP, TH	2S-4X8 FE FZY	1	
15	7048-130-081	SCREW - RH	+M3X8 FE FZY	2	
16	5682-702-710	HEATSINK - IC	AI03S05 H44 T2.0 ANT	1	
17	7108-126-041	SCREW - TAP, RH	2S-3X6 FE FZY	5	WASHER
18	2859-129-010	TRANS - FLYBACK	FMG-1235 F	1	
19	4542-705-310	SHIELD - PST	SBC-1 SN	1	
20	7128-540-081	SCREW - TAP, TH	2S-4X8 FE FZY	2	
21	3934-103-110	INSULATOR - TR	4.5-A0 2-2+ N68	1	W-2
22	7209-113-001	NUT - HEX	1-M3 FE FZY	1	
23	1914-700-410	PLATE - MICA	3M PC122 X 28.51	1	
24	7304-701-110	WASHER - REC	SBC-1 T1.6 W	1	
25	8301-702-310	STAND - BOTTOM	NORYL X BGE	1	WASHER
26	8301-700-930	STAND - PSP	NORYL X BGE	1	WASHER
27	9502-700-110	STAND - STOPPER	ACETAL +B N/T	1	
28	7148-530-161	SCREW - TAP, RH	2S-3X 6 FZY	2	
29	6074-700-720	FOOT	NEOPRENE RUBBER	2	2MM
60	0809-00-029	BOND - ARON ALPHA	202 TYPE		

NO	CODE - NO	DESCRIPTION	SPECIFICATION	Q'TY	REMARK
30	3053-402-010	CABLE - SIGNAL	MC-35 L	1	
29	6602-701-610	HOLDER - CORD	MC X BLK	1	
28	3054-810-210	POWER - CORD, AC	UP-3 5M BK3C	1	UL SHIELD
27	6613-716-610	BRKT-CORD, HOLD	AI05S05 H4 T1.6	1	SILK COATING
26	7118-530-083	SCREW - TAP, TH	3S-3X8 FE FZB	2	
25	7018-140-102	SCREW - FH	+M4X10 FE FZW	2	
24	7623-709-210	KNOB - POWER	PPO X BGE	1	
23	7148-530-102	SCREW - TAP, RH	2S-3X10 FE FZW	1	
22	8033-716-310	LABEL - PRODUCT	P.S. L	1	
21	7148-540-161	SCREW - TAP, RH	2S-4X16 FE FZY	2	
20	6001-892-510	CABINET - BACK	PPO X BGE	1	
19	7128-540-081	SCREW - TAP, TH	2S-4X8 FE FZY	3	
18	2869-298-010	TRANS - POWER, ASSY	P 25 S-30V	1	
17	7128-540-081	SCREW - TAP, TH	2S-4X8 FE FZY	1	
16	5834-702-510	CLAMP - CABLE	AI05S05 H44 T0.8	1	
15	7148-530-081	SCREW - TAP, RH	2S-3X8 FE FZY	1	
14	7108-126-041	SCREW - TAP, RH	2S-3X6 FE FZY	2	WASHER
13	3008-300-320	PCB-F/SOCKET	3S-1.9C3.6T	1	
12	7108-530-061	SCREW - TAP, RH	2S-3X6 FE FZY	1	
11	6465-703-610	BOSS - SUPPORT	ABS HBC, KJC V2	1	PUTTING 34467
10	5684-701-710	HEATSINK-IC 1170	SBC- T1.0 SN	1	
9	6613-716-510	BRKT-PCB, HOLDER	SBMG T1.2	1	
8	3354-700-910	SOCKET-CRT	14P	1	
7	5684-706-310	HEAT-SINK, VIDEO	SBC- T1.0 FE FT-2	1	
6	2439-054-210	DEFL - YOKE	29A-294EL	1	
5	4554-701-010	EARTH - PLATE	PBT SP-H T0.3	2	
4	7128-540-210	SCREW - TAP, RH	2S-4X20 FE FZY	4	
3	7304-101-190	WASHER - PLAIN	M3D6 FE FZY	4	
2	2019-125-010	CRT - MONOCHROME	14MP4H	1	
1	5001-893-010	CABINET - FRONT	PPO X BGE	1	

NO	DESCRIPTION	CODE - NO	SPECIFICATION	QTY	REMARK
A	SCREW - TH	7058-140-081	+M4X8 FE FZY	2	
B	SCREW - TAP, TH	7128-540-121	2S-4X12 FE FZY	2	
C	WASHER - PLAIN	7304-101-190	+6.5216 FE FZY	4	
D	SCREW - TAP, TH	7128-550-201	2S-5X20 FE FZY	4	
E	SCREW - RH	7048-130-121	+M3X12 FE FZY	1	
F	SCREW - TAP, PH	7108-530-061	2S-3X6 FE FZY	2	
G	SCREW - TAP, PH	7148-530-081	2S-3X8 FE FZY	2	
H	WASHER			2	
I	NUT - HEX			2	
J	SCREW - TAP, PH	7148-530-081	2S-3X8 FE FZY	7	
K	SCREW - TAP, TH	7128-540-121	2S-4X12 FE FZY	2	
L	WASHER - PLAIN	7304-700-920	9548X0 FE FZW	1	
M	INSULATOR - TR	3934-103-110	2-2H N66 VO	1	
N	NUT - HEX	7208-113-001	1-M3 FE FZY	1	
O	SCREW - TAP, TH	7128-540-081	2S-4X8 FE FZY	5	
P	WASHER - TOOTHED	7529-205-001	9-M5.0 FE FZY	3	
Q	SCREW-TAP, PH	7148-530-081	2S-3X8 FE FZY	3	
R	SCREW - TAP, PH	7148-530-161	2S-3X16 FE FZY	3	
S	SCREW - TAP, PH	7118-530-163	2S-3X8 FE FZB	2	
T	SCREW - FH	7018-140-102	+M4X10 FE FZW	2	
U	SCREW - TAP, TH	7128-540-081	2S-4X8 FE FZY	1	
V	SCREW - TAP, PH	7148-530-101	2S-3X10 FE FZY		

NO	DESCRIPTION	CODE - NO	SPECIFICATION	QTY	REMARK
38	POWER-CORD	3054-511-310	2S-4040	1	
37	SIGNAL - CABLE	3053-402-010	2S-4040	1	
36	LABEL - RATING	8033-712-570	POLYESTER TO.168	1	
35	RUBBER - FOOT	6078-700-710	RUBBER GRY	2	
34	STAND - BOTTOM	9301-701-410	PPO 40 BGE (PX1005)	1	
33	STAND - TOP	9301-701-310	PPO 40 BGE (PX1005)	1	
32	STAND - STOPPER	9302-700-110	ACE AL NTR	1	
31	HOLDER - CORD	6902-701-610	PP 40 BLK	1	
30	BACK - HOLDER, CORD	6613-716-310	AL-CDS-5 H14 T1.9 BLK	1	
29	POWER - TRANS	2869-298-010	P-15V S-30V	1	
28	CLAMP - CABLE	5634-702-510	AL-SHEET TO.8	2	
27	COVER - REAR	6004-876-310	PPO 40 BGE (PX1005)	1	
26	HEATSINK - IC	5682-702-710	A4050-5 H14 T2.0 WHT	1	
25	IC - POWER	2119-901-900	LA4550 (308)	1	
24	MAIN - PWB	0M903-000-3810	2S-4040	1	
23	POWER - PWB	0M903-000-3850	2S-4040	1	
22	CHASSIS - FRAME	6121-703-810	SBHC-1 TO.8	1	
21	PANEL - CONTROL	8304-702-410	PPO 40 BGE (PX1005)	1	
20	S/W-SEESAW ROCKER	0M905-000-2230	2A 125VAC 250V 6A	1	
19	LED - PWB	0M903-000-2300	2S-4040	1	
18	CONTRAST - VR	1204-902-022	RSN 20F B5K	1	
17	BRIGHT - VR	1204-105-005	RSN 20F C1 B50K	1	
16	BRKT - VR	6613-714-310	SECC T1.0	1	
15	KNOB - VR	7623-708-610	PPO 40 BGE (PX1005)	2	
14	SHIELD - VIDEO	4542-706-110	SPCE TO.3	1	
13	HEATSINK - TR, VIDEO	5684-706-310	SBC-1 T1.0 FE FT-2	1	
12	TR - VIDEO	2149-302-070	MPS-U07	1	
11	HEATSINK - IC	5684-701-710	SBC-1 T1.0 SN	1	
10	SHIELD CASE - FBT	4542-705-310	SBC-1 SN ELE-PL	1	
9	PLATE - MICA	3914-700-410	3M PC (22X28.5)	1	
8	TR	2149-202-330	2SD633	1	
7	WASHER-REC	7304-701-110	SBC-1 T1.5 NI	1	
6	VIDEO - PWB	0M902-000-4190	2S-4040	1	
5	DY	2439-054-210	24K-294QL	1	
4	CRT - MONOCHROME	2019-134-110	CETRI M14H167 GRZ	1	
3	EARTH - PLATE	4553-700-010	PBSJ SPCH TO.3	2	
2	BRKT - SUPPORT, BOTTOM	6613-712-110	SBHC-1 T1.2	2	
1	COVER - FRONT	6004-875-010	PPO 40 BGE (PX1005)	1	
NO	DESCRIPTION	CODE - NO	SPECIFICATION	QTY	REMARK

C. ML2571

38	PLATE-MICA	3914-700-410	3M PC (22X28.5)	1
39	SCREW-TAP,TH	7128-560-081	2S-4X8 FE FZY	5
40	DY	DMK04-000-3260	DMK-1294EL(3)	1
41				
42				
43	CLAMP-CABLE	6634-702-510	AL SHEET T0.8	1
44	SIGNAL-CABLE	3053-402-010	20-4040	1
45	CHASSIS-FRAME	6121-704-811	SBHG-1 T0.8	1
46	POWER-TRANS	2869-296-010	P:115V S:30V	1
47	PANEL-REAR,R	7601-737-010	PPO VO BGE	1
48	SCREW-TAP,RH	7148-560-081	2S-4X8 FE FZY	2
49	HOLDER-CORD	6602-701-610	PP VO BLK	1
50	SCREW-TAP,RH	7148-530-161	2S-3X16 FE FZY	2
51	STAND-STOPPER	8302-700-110	ACETAL	1
52	STAND-TOP	8301-701-710	PPO VO BGE	1
53	STAND-BOTTOM	8301-702-010	PPO VO BGE	1
54	COVER-REAR	6001-882-020	PPO VO BGE	1
55	LABEL-RATING	8033-716-420	POLYESTER T0.166	1
56	SCREW-PH	7008-140-120	+M4X12 FE FZY	2
57	POWER-CORD,AC	3054-411-810	20-4040	1
58	FOOT	6074-700-710	NEOPRENE GRY RUBBER	2
59	SCREW-TAP,RH	7148-530-101	2S-3X12 FE FZY	1

NO	DESCRIPTION	CODE - NO	SPECIFICATION	Q'TY
1	SCREW-TH	7026-140-081	+M4X8 FE FZY	2
2	COVER-FRONT	6001-890-010	PPO VO BGE	1
3	SUPPOR-BOTTOM	6613-712-110	SBHG-1 T1.0	2
4	CONTROL-PANEL	7601-733-010	PPO VO PGE	1
5	POWER-SWITCH	3539-011-120	12A 125VAC 6A 125VAC	1
6	SCREW-TAP,TH	7128-560-101	2S-4X10 FE FZY	2
7	SCREW-TAP,TH	7128-560-121	2S-4X12 FE FZY	2
8	SCREW-TAP,TH	7128-560-081	2S-4X8 FE FZY	1
9	VR-ROUND,SGL	1201-105-005	18SM 20F CI 250K	1
9-1	VR-ROUND,SGL	1201-102-022	18SM 20F B5K	1
10	BRACKET-VR	6613-715-310	SPHC-1 T1.0	1
11	KNOB-VR	7623-709-110	PPO VO BGE	2
12	WASHER-PLAIN	7306-101-190	165216 FW FZY	4
13	CRT	2019-125-10	12BHYVON	1
14	EARTH-PLATE	4553-700-3	PBSJ SP-H T0.3	2
15	SCREW-TAP,TH	7128-560-201	2S-4X20 FE FZY	4
16	MAIN-PCB	DMK04-400-3290	ML2571A	1
17	SCREW-TAP,PH	7108-530-061	2S-3X6 FE FZY	2
18	DY-VIDEO	2149-302-070	MPS-U07	1
19	HEATSINK-TR,VIDEO	5684-706-310	SBC-1 FE FT-2	1
20	SHIELD-VIDEO	4542-706-110	SPTE T0.3	1
21	HEATSINK-IC	5684-701-710	SBC-1 T1.0 SN	1
22	SCREW-TAP,BH	7148-530-081	2S-3X8 FE FZY	7
23	WASHER-TOOTHED	7328-205-001	8-P15.0 FE FZY	3
24	SCREW-TAP,BH	7148-530-081	2S-3X8 FE FZY	3
25	NUT-HEX	7208-113-401	1-M3 FE FZY	1
26	INSULATOR-TR	3936-103-110	Z-21 N66 VO	1
27	WASHER-PLAIN	7306-700-920	954810 FE FZY	1
28	TR	2149-202-130	D00033	1
29	WASHER-REC	7304-701-110	SBC-1 T1.5N1	1
30	SCREW-PH	7048-130-121	+M3X12 FE FZY	1
31	IC-POWER	2119-601-900	LA4960(SGS)	1
32	HEATSINK-IC	5682-702-710	A1050S H14 T2.0 WHT	1
33	LED-PWB	DMK03-000-2300	25-4040	1
34	VIDEO-PWB	DMK02-000-3399	25-4060	1
35	SCREW-TAP,BH	7148-530-081	2S-3X8 FE FZY	1
36	SHIELD CASE-FBT	4542-705-310	SBC-1 SN ELK-PL	1
37	SCREW-TAP,PH	7108-530-061	2S-3X6 FE FZY	1

NO	DESCRIPTION	CODE - NO	SPECIFICATION	Q'TY	REMARK
A	SCREW-RH	7048-140-081	M4X8 FE FZY	2	
B	SCREW-TAP, TH	7128-540-121	2S-4X12 FE FZY	2	
C	WASHER-PLAIN	7304-101-190	165216 FE FZY	4	
D	SCREW-TAP, TH	7128-550-201	2S-5X20 FE FZY	4	
E	SCREW-RH	7048-130-121	M3X12 FE FZY	1	
F	SCREW-TAP, PH	7108-530-061	2S-3X6 FE FZY	2	
G	SCREW-TAP, PH	7148-530-081	2S-3X8 FE FZY	2	
H	WASHER			2	
I	NUT-HEX			2	
J	SCREW-TAP, PH	7148-530-081	2S-3X8 FE FZY	7	
K	SCREW-TAP, TH	7128-540-121	2S-4X12 FE FZY	2	
L	WASHER-PLAIN	7304-700-920	9548H0 FE FZW	1	
M	INSULATOR-TR	3934-103-110	2-2H A66 VO	1	
N	NUT-HEX	7208-113-001	1-M3 FE FZY	1	
O	SCREW-TAP, TH	7128-540-081	2S-4X8 FE FZY	5	
P	WASHER-TOOTHED	7328-205-001	B-P5.0 FE FZY	3	
Q	SCREW-TAP, PH	7148-530-081	2S-3X8 FE FZY	3	
R	SCREW-TAP, PH	7148-530-161	2S-3X16 FE FZY	3	
S	SCREW-TAP, PH	7118-530-083	2S-3X8 FE FZB	2	
T	SCREW-FH	7018-140-102	M4X20 FE FZW	2	
U	SCREW-TAP, TH	7128-540-081	2S-4X8 FE FZY	1	

NO	DESCRIPTION	CODE - NO	SPECIFICATION	Q'TY	REMARK
38	POWER-CORD	1054-311-8 2	25-4040	1	
37	SIGNAL-CABLE	5053-402-010	25-4040	1	
36	LABEL-RATING	8033-712-580	POLYESTER T0.166	1	
35	RUBBER-FOOT	5074-700-710	RUBBER GRY	2	
34	STAND-BOTTOM	9301-701-410	PPO VO BGE (PX1005)	1	
33	STAND-TOP	9301-701-310	PPO VO BGE (PX1005)	1	
32	STAND-STOPPER	9302-700-110	ACETAL NTR	1	
31	HOLDER-CORD	6602-701-510	PP VO BLK	1	
30	BACK-HOLDER, CORD	6613-716-610	AL0505 H14 T1.8 BLK	1	
29	POWER-TRANS	2869-298-010	P-115V S-30V	1	
28	CLAMP-CABLE	6634-702-510	AL SHEET T0.8	1	
27	COVER-REAR	6001-876-010	PPO VO BGE (PX1005)	1	
26	HEATSINK-IC	5682-702-710	A1050S H14 T2.0 WHT	1	
25	IC-POWER	2119-501-902	L4960 (SGS)	1	
24	MAIN-PWB	OM903-000-3813	25-4040	1	
23	POWER-FRAME	OM903-000-3850	25-4040	1	
22	CHASSIS-FRAME	6121-703-811	SBHG-1 T0.8	1	
21	PANEL-CONTROL	8301-702-410	PPO VO BGE (PX1005)	1	
20	S/W-SEESAW ROCKER	OM905-000-2233	2A 125VAC 250V SA	1	
19	LED-PWB	OM903-000-2300	25-4040	1	
18	CONTRAST-VR	1201-102-022	RSN 20F B5K	1	
17	BRIGHT-VR	1201-105-005	RSN 20F CI B50K	1	
16	BRKT-VR	6613-714-310	SECC T1.0	1	
15	KNOB-VR	7623-708-610	PPO VO BGE (PX1005)	2	
14	SHIELD-VIDEO	4542-706-110	SPTE T0.3	1	
13	HEATSINK-TR, VIDEO	5684-706-310	SBC-1 T1.0 FE FT-2	1	
12	TR-VIDEO	2149-302-070	MPS-U07	1	
11	HEATSINK-IC	5684-701-710	SBC-1 T1.0 SN	1	
10	SHIELD CASE-FBT	4542-705-310	SBC-1 SN ELE-PL	1	
9	PLATE-MICA	3914-700-410	3M PC (22 X 28.5)	1	
8	TR	2149-202-330	D00033	1	
7	WASHER-REC	7304-701-110	SBC-1 T1.5	1	
6	VIDEO-PWB	OM902-000-4390	25-4040	1	
5	DY	2439-054-210	DMK-1294	1	
4	CRT-MONOCHROME	2019-134-110	CE791 W14 H167 GRZ	1	
3	EARTH-PLATE	4554-701-010	PBS3 SP-H T0.3	2	
2	BRKT-SUPPORT, BOTTOM	6613-712-110	SBHG-1 T1.2	2	
1	COVER-FRONT	6001-887-000	PPO VO BGE (PX1005)	1	
NO	DESCRIPTION	CODE - NO	SPECIFICATION	Q'TY	REMARK

REPLACEMENT PARTS LIST

PRODUCT SAFETY SHOULD BE CONSIDERED WHEN A COMPONENT REPLACEMENT IS MADE IN ANY AREA OF A UNIT COMPONENTS INDICATED BY A **MARK'**
IN THIS PARTS LIST AND THE SCHEMATIC DIAGRAM SHOW **COMPONENTS WHOSE VALUE HAVE SPECIAL SIGNIFICANCE TO** PRODUCT SAFETY. IT IS PARTICULARLY RECOMMENDED THAT ONLY PARTS **SPECIFIED ON THE FOLLOWING PARTS LIST** BE **USED FOR** COMPONENT REPLACEMENT **POINTEDOUT BY THE** MARK.

Location No.		Part No.	Description	Remark
			ASSY-PWB, MAIN	
		0509-400-I 16	WIRE-SO COPPER;TA 0.6 SN	
8P		3053-605-310	CONN-8P ASSY .MO-1261 L	
C201		1416-318-471	C CERAMIC,HK,CK45B 50V 470-K	
C202		1509-121-260	C-POLYESTER;CQ921M 100V 0.1M-J	
C203		1509-1 21.750	C-POLYESTER;CQ921M 100V 0.15M-J	
C204		1417-344-104	C-CERAMIC,HK;CK45(T) F 50V 0 1M-Z	
C205		1609-401-510	C-ELECTROLYTIC;CE04W 16V 1000M	
C206		1609-402-100	C-ELECTROLYTIC;CE04W 35V 100M	
C207		1505-724-332	C-POLYESTER;CQ921M(T) 100V 0.0033-K	
C208		15: 7-383-I 04	C-M,POLYESTER;CF922M 250V 0 1 M-J	
C209		1517-383-104	C-M,POLYESTER;CF922M 250V 0.1M-J ,	
C210		1608-904-470	C-ELECTROLYTIC;CE04W(T) 25V 47M	
c211		1417-318-101	C-CERAMIC,HK;CK45(T) 8 50V 100-K	
c212		1608-905-220	C-ELECTROLYTIC;CE04W(T) 35V 22M	
C213		1505-723-104	C-POLYESTER;CQ921 MIT) 100V 0.1 M-J	
C214		1609-401-510	C-ELECTROLYTIC;CE04W 16V 1000M	
C215	ALT	1608-905-479	C-ELECTROLYTIC;CE04W(T) 35V 4 7M	FOR ML?61 1 ONLY
	ALT	1608-908-068	C-ELECTROLYTIC;CE04W(T) 100V 0.68M	FOR ML4511 / 2571 / 4571
C220		1417-318-221	C-CERAMIC,HK;CK45(T)B 50V 220.K	
C300		1417-318-101	C-CERAMIC,HK;CK45(T)B 50V 100-K	
C301		1608-906-047	C-ELECTROLYTIC;CE04W(T) 50V 0.47M	
C302		1509-121-070	C-POLYESTER;CQ921M 100V 0.0027M-J	
C303		1417-344-104	C-CERAMIC,HK;CK45(T) F 50V 0.1M-Z	
C304		1609-402-I 20	C-ELECTROLYTIC;CE04W 35V 330M	
c305		1509-452-180	C-POLYSYTRENE;CQ09S 50V 1500-J	
C306		1505-725-I 02	C-POLYESTER;CQ921M(T)100V O.OO1.K	
C307		1505-724-332	C-POLYESTER;CQ921M(T)100V 0.0033-K	
C308		1608-906-I 09	C-ELECTROLYTIC;CE04W(T)50V 1 M	
C311		1509-I 21-260	C-POLYESTER;CQ921M 100V 0.1M-J	
C312		1505-723-103	C-POLYESTER;CQ921M(T) 1 00V 0.01 -J	
c313		1509-I 21-070	C-POLYESTER;CQ921M 100V 0.0027M-J	
C314		1509-I 2 1.260	C-POLYESTER;CQ921M 100V 0.1M-J	
C315		1507-553-I 83	C POLYPROPHILENE;CQ922M 630V 0 018M-J	
C316		1539 -00 I-250	C-M,PAPER;CH021 H 250V 2.5M-K	
C404		1603-907-222	C-ELECTROLYTIC;CE04W 63V 2200UF(22X40)	
C405		1417-344-104	C-CERAMIC,HK;CK45(T) F 50V 0 1M-Z	
C406		1505-723-222	C-POLYESTER;CQ921MIT) 100V 0 0022 J	
C407		1417-329-102	C CERAMIC,HK;CK45(T) D 50V 1000.M	
C408		1417-318-331	C-CERAMIC,HK;CK45(T)B 50V 330-K	
C409		1505-723-103	C-POLYESTER;CQ921M(T)100V 0 01-J	

Location NO.	Pan No.	Description	Remark
C411	1603-905-471	C-ELECTROLYTIC;CE04W 35V 470M	
C412	1603-905-471	C-ELECTROLYTIC;CE04W 35V 470M	
C413	1417-344-104	C-CERAMIC,HK;CK45(T) F 50V 0.1M-Z	
c-414	1608-904-100	C-ELECTROLYTIC;CE04W(T) 25V 10M	
C420	1603-905-o-71	C-ELECTROLYTIC;CE04W 35V 170M	
C501	1609-402-250	C-ELECTROLYTIC;CE04W 50V 10M	
C502	1505-723-104	C-POLYESTER;CQ921M(T) 100V 0.1M-J	
C503	1505-723-562	C-POLYESTER;CQ921M(T) 100V 0.0056-1-J	
C504	151 7-353-223	C-M,POLYESTER;CF922M 630V 0 022M-J	
C515	1419-901-100	C-CERAMIC,HK,CK45 3 1 KV 0.01M-K	
C516	1609-403-100	C-ELECTROLYTIC;CE04W 100V 100M	
C517	1609-401-700	C-ELECTROLYTIC;CE04W 25V 330M	
C518	1609-403-180	C-ELECTROLYTIC;CE04W 160V 2 2M	
C530	1417-344-104	C-CERAMIC,HK;CK45(T) F 50V 0.1M-Z	
c531	1608-903-101	C-ELECTROLYTIC;CE04W(T) 16V 100M	
0201	2169-301-410	DIODE; 1N4148	
0202	2169-301-410	DIODE;1N4148	
0203	2169-208-030	DIODE;FR104(400V 1A)	
G301	2169-301-410	DIODE; 1 N4148	
0302	2169-403-697	DIODE-ZENER;RD 6.8EB1(T)	
'G303	2169-206-280	DIODE;RP304(400V 3A)	
D304	2169-208-030	DIODE;FR104(400V 1.41	
*D401	2169-201-240	DIODE;IN5402(200V 3A)	
*D402	2169-201-240	DIODE;IN5402(200V 3At	
*D403	2169-201-240	DIODE;IN5402(200V 3A)	
*D404	2169-201-240	DIODE;IN5402(200V 3A)	
D405	2169-206-040	DIODE;SR108(80V 1A)	
D501	2169-208-040	DIODE;FR107(1000V 1A)	
0502	2169-208-030	DIODE;FR104(400V 1A)	
0503	2169-208-030	DIODE;FR104(400V 1A)	
0504	2169-208-030	DIODE;FR104(400V 1A)	
D530	2169-403-557	DIODE-ZENER;RD 5.1EB1(T)	
EX-BRT	3344-153-010	CONNECTOR-PIN,BASE;B2B-XH-A(JST)	
G1G2G4	3054-614-910	CONNECTOR-3P ASSY:JST HOUS 3P-SVF(300MM)	
H+IC	7108-530-061	SCREW-TAP PH;2S-3X6 FE FZY	
H-DY	3344-112-010	CONNECTOR-WAFER;5273-02A MOLEX	
HIV	3344-153-040	CONNECTOR-PIN,BASE;B5B XH-A(JST)	
*IC201	2119-101-270	IC;TDA 1170N	
*IC301	2109-104-700	IC;KS74HCTLS86N	
• IC302	2119-103-130	IC;MC1391P	
• 1c401	2119-601-900	IC-POWER;L4960	
IC401	5682-702-710	HEATSINK-IC;A1050S H14 T2.0 WHT	
. L302	2449-733-210	COIL-H.LINEARITY;5.0-18.3UH	
. L303	2449-433-310	COIL-H.WIDTH;7.0-29.9UH	
• L401	2429-060-110	COIL-CHOKE;200 UH	
LED	3344-153-010	CONNECTOR-PIN,BASE;B2B-XH-A(JST)	
PCB	3006-300-310	PCB-MAIN(MD-1261L);197X153X1.6T	
POWER	3344-131-010	CONNECTOR-WAFER;B2P-VH (2P 3.96MM)	

Location No.	Part No.	Description	Remark
Q201	2139-301-070	TRANSISTOR;2N3904	
Q301	2139-301-070	TRANSISTOR;2N3904	
Q302	2139-301-070	TRANSISTOR;2N3904	
Q303	2139-301-070	TRANSISTOR;2N3904	
*Q304	2149-301-437	TRANSISTOR;KSC1008-Y(T)	
*Q305	2149-202-330	TRANSISTOR;D00033	
Q305	3914-700-410	PLATE MICA;3M PC(22X28.50	
Q305	3934-103-110	INSULATOR-TR;4.5-8D 2-2H N66 C-0	
Q305	4542-705-310	SHIELD-FET;SBC-1 SN ELECTRO-PLATING	
*Q501	2139-204-070	TRANSISTOR;MPS A45	
R200	1018-277-331	R-CARBON;RD 1/4T 330-J	
R201	1018-277-273	R-CARBON;RD 1/4T 27K-J	
R202	1018-277-331	R-CARBON;RD 1/4T 330-J	
R203	1018-277-274	R-CARBON;RD 1/4T 270K-J	
R204	1018-277-103	R-CARBON;TD 1/4T 10K-J	
R205	1018-377-100	R-CARBON;RD 1/2T 10-J	
R206	1018-277-563	R-CARBON;RD 1/4T 56K-J	
R207	1018-277-304	R-CARBON;RD 1/4T 270K-J	
R208	1018-277-274	R-CARBON;RD 1/4T 270K-J	
R209	1018-277-125	R-CARBON;RD 1/4T 1.2M-J	
R210	1018-277-563	R-VARBON;RD 1/4T 56K-J	
R215	1018-277-823	R-CARBON;RD 1/4T 82K-J	
R216	1018-277-272	R-CARBON;RD 1/4T 2.7K-J	
R217	1018-277-273	R-VARBON;RD 1/4T 27K-J	
R218	1018-277-473	R-CARBON;RD 1/4T 47K-J	
R219	1018-277-339	R-CARBON;RD 1/4T 3-3-J	
R220	1018-277-123	R-CARBON;RD 1/4T 12K-J	
R221	1018-377-109	R-METAL,FILM;RM 1/2T 1-J	
R225	1018-277-222	R-CARBON;TD 1/4T 2.2K-J	
R226	2028-377-182	R-CARBON;TD 1/4T 1.8K-J	
R227	1018-277-100	R-CARBON;RD 1/4T 10-J	
R240	1018-277-683	R-CARBON;RD 1/4T 68K-J	
R300	1018-277-331	R-CARBON;RD 1/4T 330-J	
R301	1018-277-273	R-CARBON;RD 1/4T 27K-J	
R302	1018-277-331	R-CARBON;TD 1/4T 330-J	
R303	1018-277-103	R-CARBON;RD 1/4T 10K-J	
R304	1018-277-222	R-CARBON;RD 1/4T 2.2K-J	
R305	1018-277-273	R-CARBON;RD 1/4T 27K-J	
R310	1018-277-272	R-CARBON;RD 1/4T 2.7K-J	
R312	1018-277-472	R-CARBON;TD 1/4T 4.7K-J	
R313	1018-277-472	R-CARBON;TD 1/4T 4.7K-J	
R314	1018-277-102	R-CARBON;RD 1/4T 1K-J	
R320	1018-277-182	R-CARBON;RD 1/4T 1.8K-J	
R321	1018-277-102	R-CARBON;RD 1/4T 1K-J	
*R322	1018-277-153	R-CARBON;RD 1/4T 15K-J	
R323	1018-277-104	R-CARBON;TD 1/4T 100K-J	
R324	1018-377-331	R-CARBON;RD 1/2T 330-J	

Location No.	Part No.	Description	Remark
R325	1018-377-331	R-CARBON;RD 1/2T 330-J	
R326	1018-277-123	R-CARBON;RD 1/4T 12K-J	
R327	1018-277-332	R-CARBON;RD 1/4T 3.3K-J	
*R328	1018-277-103	R-CARBON;RD 1/4T 10K-J	
*R329	1018-377-100	R-CARBON;RD 1/2T 10-J	
R330	1018-277-101	R-CARBON;RD 1/4T 100-J	
R331	1018-277-471	R-CARBON;RD 1/4T 470-J	
R355	1045-527-391	R-METAL,OXIDE;RS2P 390-J	
R403	1018-277-152	R-CARBON;RD 1/4T 1.5K-J	
R404	1018-277-153	R-CARBON;RD 1/4T 15K-J	
*R405	1018-277-392	R-CARBON;RD 1/4T 3.9K-J	
*R406	1018-277-122	R-CARBON;RD 1/4T 1.2K-J	
R410	1018-277-331	R-CARBON;RD 1/4T 330-J	
R411	1018-277-102	R-CARBON;RD 1/4T 1K-J	
R501	1018-277-332	R-CARBON;RD 1/4T 3.3K-J	
R502	1018-277-103	R-CARBON;RD 1/4T 10K-J	
R503	1018-277-472	R-CARBON;RD 1/4T 4.7K-J	
R504	1018-277-685	R-CARBON;RD 1/4T 6.8M-J	
R505	1018-277-124	R-CARBON;RD 1/4T 120K-J	
R506	1018-277-334	R-CARBON;RD 1/4T 330K-J	
R507	1018-277-182	R-CARBON;RD 1/4T 1.8K-J	
R515	1018-277-125	R-CARBON;RD 1/4T 1.2M-J	
R516	1018-277-225	R-CARBON;RD 1/4T 2.2M-J	
R520	1018-277-823	R-CARBON;RD 1/4T 82K-J	
R521	1018-277-103	R-CARBON;RD 1/4T 10K-J	
R530	1049-427-221	R-METAL,OXIDE; RS1P 220-J	
*T301	2849-031-610	TRANS-H,DRIVE;19X7.6M/M	
TR	7304-701-110	WASHER REC.;SBC-1 T1.5 NI	
TR	7208-113-001	NUT-HEX;1 M3 FE FZY	
TR	7048-130-121	SCREW-RH;+M3Z12 FE FZY	
TR	7304-700-920	WASHER-PLAIN;954810 FE PZW	
V-DY	3344-127-710	CONNECTOR-PIN,BASE;JST RTB-1.5-2F	
VR201	1241-110-010	VR-SEMI;cet 117A B100K	
VR202	1241-110-014	VR-SEMI;CET 117A B200K	
VR203	1241-110-006	VR-SEMI;CET 117A B500K	
VR204	1241-110-006	VR-SEMI;CET 117A B500K	
VR205	1241-110-005	VR-SEMI;CET 117A B50K	
*VR301	1241-108-003	VR-SEMI;CET 92A B5K	
*VR401	1241-108-011	VR-SEMI;CET 92A B1K	
VR501	1241-108-012	VR-SEMI;CET 92A B2.5M	
VR503	1241-108-010	VR-SEMI;CET 92A B250K	

ASSY-PCB CRT/FILTER

		0509-400-116	WIRE-SO,COPPER;TA 0.6 SN	
*AC	ALT	3054-811-810	POWER CORD,AC,ASSY;MD-1256A	USA STANDARD VERSION
C101		1509-121-260	C-POLYESTER;CQ921M 100V 0.1M-J	
C102		1609-401-680	C-ELECTROLYTIC;CE04W 25V 100M	
C103		1609-401-480	C-ELECTROLYTIC;CE04W 16V 220M	

Location No.	Part No.	Description	Remark
C104	1419-204-820	C:CERAMIC,HK;CK45 F 50V 0.1M-Z	
C105	1419-204-820	C:CERAMIC,HK;CK45 F 50V 0.1M-Z	
C106	1609-402-230	C:ELECTROLYTIC,CE04W 50V 3.3M	
C107	1419-109-140	C:CERAMIC,HK;CK45 B 50V 0.01M-Z	
C108	1417-318-101	C:CERAMIC,HK,CK45(T) B 50V 100-K	
C111	1609-403-090	C:ELECTROLYTIC;CE04W 100V 47M	
C112	1419-204-820	C:CERAMIC,HK,CK45 F 50V 0.1M-Z	
*C401	1566-513-224	C:M POLYESTER,AC,CQS 922M 250V 0.22M-M(U/C)	
*C402	1461-137-806	C:CERAMIC,AC,DE 7100F 222MVAI	
*C403	1461-137-806	C:CERAMIC,AC,DE 7100F 222MVAI	
C510	1419-106-250	C:CERAMIC,HK;CK45 B 500V 0.01M-K	
C511	1419-901-100	C:CERAMIC,HK,CK45 B 1KV 0.01M-K	
CONTRAST	3344-153-010	CONNECTOR-PIN,BASE;B2B-XH-A(JST)	
D101	2169-301-410	DIODE;1N4148	
D102	2169-301-410	DIODE;1N4148	
D104	2169-403-800	DIODE-ZENER;RD12 EB2	
F401	3364-700-210	HOLDER-FUSE,FC51E,20M/M FUSE	
*F401 ALT	4709-088-050	FUSE,51S,250V 1A 20MM	FOR 110-120VAC VERSION
ALT	4709-030-020	FUSE;T250V 315MA 20MM SEMKO	FOR 220-240VAC VERSION
G1G2G4	3344-120-810	PIN-BASE,JST RTB-1.5-3 VO WHT	
GND	3054-223-020	GND-WIRE,ASSY;BLK,L-100MM	
H+V	7108-530-061	SCREW-TAP PH;2S-3X6 FE FZY	
*IC101	2109-104-610	IC,M51392P	
IN-SIGNAL	3344-120-060	CONNECTOR-PIN,BASE;B8B-XH-A	
LED	2309-110-090	LED;KLG208E	
LED	3054-640-810	CONNECTOR-2P,ASSY;JST XHP-2,B+	
PCB	3006-300-320	PCB-F;SOCKET(M)-1261L);139X80X1.6T	
Q101	2139-401-750	TRANSISTOR;2N3906(SST)	
Q102	2139-301-070	TRANSISTOR;2N3904	
*Q103	2149-301-360	TRANSISTOR;2N2369	
Q104	5684-706-310	HEAT-SINK,VIDEO;SBC-1 T1.0 FE FT-2	
*Q104	2149-302-070	TRANSISTOR;MPS-U07	
R101	1018-277-561	R-CARBON;RD 1/4T 560-J	
R102	1018-277-121	R-CARBON;RD 1/4T 120-J	
R103	1018-277-302	R-CARBON;RD 1/4T 3K-J	
R104	1018-277-332	R-CARBON;RD 1/4T 3.3K-J	
R105	1018-277-222	R-CARBON;RD 1/4T 2.2K-J	
R106	1018-277-333	R-CARBON;RD 1/4T 33K-J	
R107	1018-277-472	R-CARBBON;RD 1/4T 4.7K-J	
R108	1018-277-222	R-CARBON;RD 1/4T 2.2K-J	
R109	1018-277-102	R-CARBON;RD 1/4T 1K-J	
R110	1018-277-222	R-CARBON;RD 1/4T 2.2K-J	
R111	1018-277-471	R-CARBON;RD 1/4T 470-J	
R115	1018-277-472	R-CARBON;RD 1/4T 4.7K-J	
R116	1018-277-470	R-CARBON;RD 1/4T 47-J	
R117	1018-277-470	R-CARBON;RD 1/4 47-J	
R118	1018-277-560	R-CARBON;TD 1/4T 56-J	
R119	1018-277-101	R-CARBON;RD 1/4T 100-J	

Location No.		Part No.	Description	Remark
R120		1018-277-102	R-CARBON;RD 1/4T 1K-J	
R121		1018-277-820-	R-CARBON;RD 1/4T 82-J	
R122		1045-527-471	R-METAL,OXIDE;2P 470-J	
R123		1045-527-471	R-METAL,OXIDE;2P 470-J	
R125		1045-427-680	R-METAL,OXIDE;RS 1P 68-J	
R130		1018-277-102	R-CARBON;RD 1/4T 1K-J	
R401		1018-377-684	R-CARBON;RD 1/2T 680K-J	
R509		1045-427-680	R-METAL,OXIDE;RS 1P 68-J	
R510		1018-377-102	R-CARBON;RD 1/2T 1K-J	
R511		1018-377-473	R-CARBON;RD 1/2T 47K-J	
R512		1018-377-102	R-CARBON;RD 1/2T 1K-J	
S501		2029-010-010	LAMP-NEON;DMS 90-130V DC	
S502		4569-001-110	SPARK-GAP;S-23(1KV)	
S503		4569-001-110	SPARK-GAP;S 23(1KV)	
S504		4569-001-110	SPARK-GAP;S-23(1KV)	
SOCKET		3353-700-910	SOCKET-CRT;7PIN	
T401		3124-700-810	PIN-GT,14.2MM 2.35PI	
VIDEO		3344-120-020	CONNECTOR-PIN,BASE;B2B-XH-A(JST)	
VR101		1241-110-004	VR-SEMI;CET 117A B200	

THE OTHERS

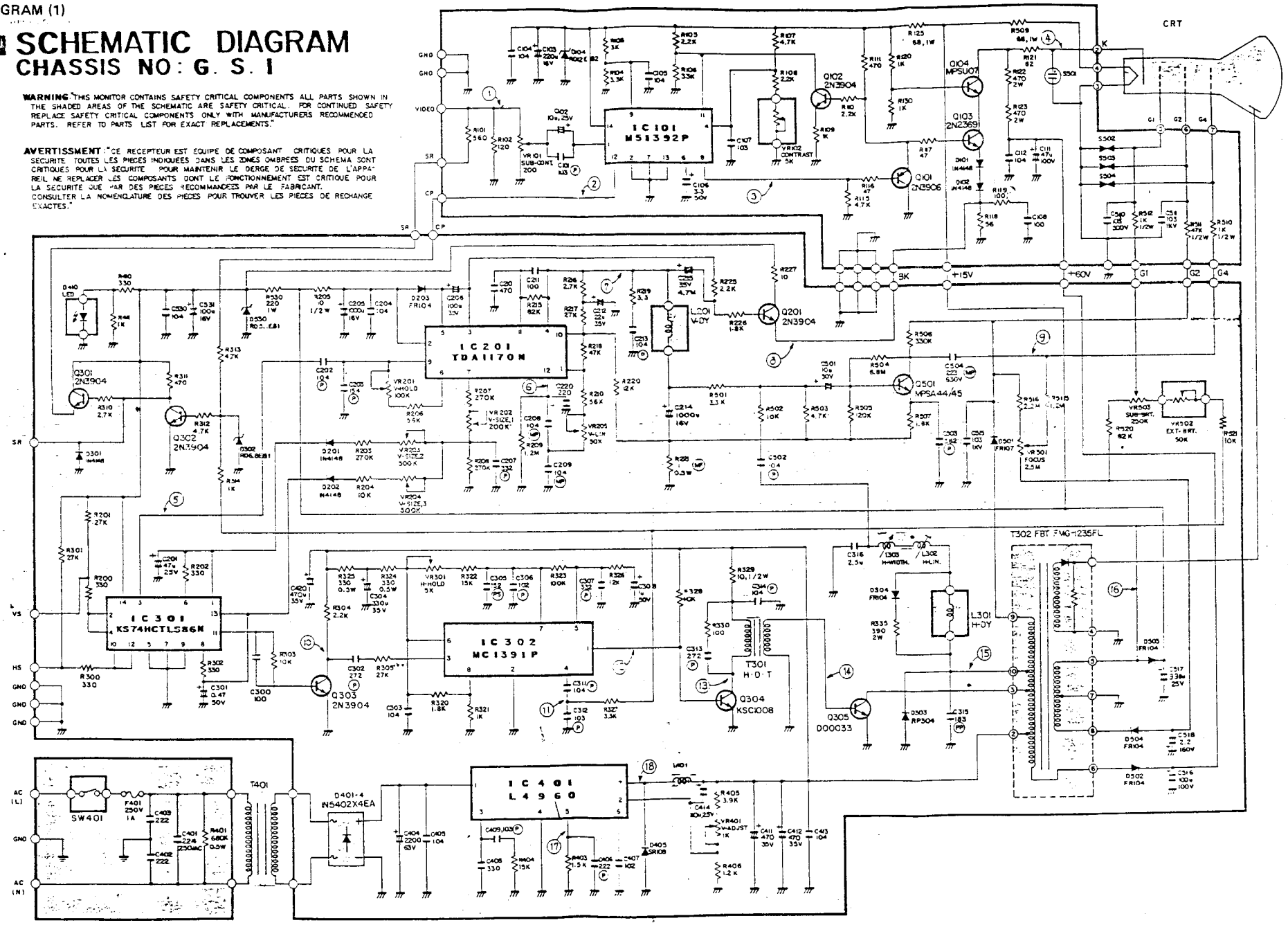
		3053-402-020	CABLE-SIGNAL;MD-1261L(A)	
*CRT	ALT	2019-125-010	CRT-MONOCHROME;12ABYWDN	FOR ML2611 ONLY
	ALT	2019-132-710	CRT-MONOCHROME;14BBYWDN	FOR ML5411 ONLY
	ALT	2019-125-410	CRT-MONOCHROME;12HBYWDN	FOR ML2571 ONLY
	ALT	2019-132-610	CRT-MONOCHROME;14HBYWDN	FOR ML4571 ONLY
CRT-G		3054-223-020	GND-WIRE, ASSY; BLK,L-100MM.	
CRT-G		3054-640-020	CONNECTOR 1P ASSY; CONNECTOR CRT ASSY	
CRT-G		4554-701-010	EARTH-PLATE; PBS3 SP-H T0.3	
*T401	ALT	2869-298-010	TRANS-POWER, ASSY; P:115V, MD-1261L	FOR 110-120VAC VERSION
	ALT	2869-298-020	TRANS-POWER, ASSY; P:230V, MD-1261L	FOR 220-240VAC VERSION
*DY	ALT	2439-054-210	DEFL-YOKE; DMK-1294EL	FOR ML2611 ONLY
	ALT	2439-054-230	DEFL-YOKE; DMK-1294EL(3)	FOR ML4511 / 2571 / 4571
V-DY		3054-613-750	CONNECTOR-DY,ASSY; CONNECTOR	
H-DY		3054-618-810	CONN-HORZ DY ASSY; 2*22AWG	
SW401	ALT	3529-702-210	SWITCH PUSH; ESB8213V	FOR ML2611 110-120VAC VERSION
	ALT	3529-703-610	SWITCH PUSH; ESB90702V	FOR ML2611 220-240VAC VERSION
	ALT	3539-011-120	S/W SEESAW,ROCKER;12A 125VAC 250V 6A	FOR ML4511 / 2571 / 4571 110-120VAC VERSION
	ALT	3539-011-110	SWITCH ROCKER;SDDJIS 250V 3A	FOR ML4511 / 2571 / 4571 220-240VAC VERSION
VR102		1201-102-022	VR-ROUND, SGL; 18SN 20F B5K	
CONTRA		3054-642-210	CONNECTOR,2P,ASSY; JST HOUS XHP-2P,L300	
VR502		1201-105-005	VR-ROUND SGL;18SN 20FC1 B50K	
BRT		3051-640-610	CONNECTOR,2P,ASSY; JST HOUS XHP-2(2.5) BRT.	

FOR USA VERSION

SCHEMATIC DIAGRAM
CHASSIS NO : G. S. I

WARNING "THIS MONITOR CONTAINS SAFETY CRITICAL COMPONENTS ALL PARTS SHOWN IN THE SHADED AREAS OF THE SCHEMATIC ARE SAFETY CRITICAL. FOR CONTINUED SAFETY REPLACE SAFETY CRITICAL COMPONENTS ONLY WITH MANUFACTURERS RECOMMENDED PARTS. REFER TO PARTS LIST FOR EXACT REPLACEMENTS."

AVERTISSMENT "CE RECEPTEUR EST EQUIPE DE COMPOSANT CRITIQUES POUR LA SECURITE TOUTES LES PIECES INDIQUEES DANS LES ZONES OMBREES DU SCHEMA SONT CRITIQUES POUR LA SECURITE POUR MAINTENIR LE DERGE DE SECURITE DE L'APPAREIL NE REPLACER LES COMPOSANTS DONT LE FONCTIONNEMENT EST CRITIQUE POUR LA SECURITE QUE PAR DES PIECES RECOMMANDEES PAR LE FABRICANT. CONSULTER LA NOMENCLATURE DES PIECES POUR TROUVER LES PIECES DE RECHANGE EXACTES."



[illegible] VERSION

SCHEMATIC DIAGRAM
CHASSIS NO : G..S. I

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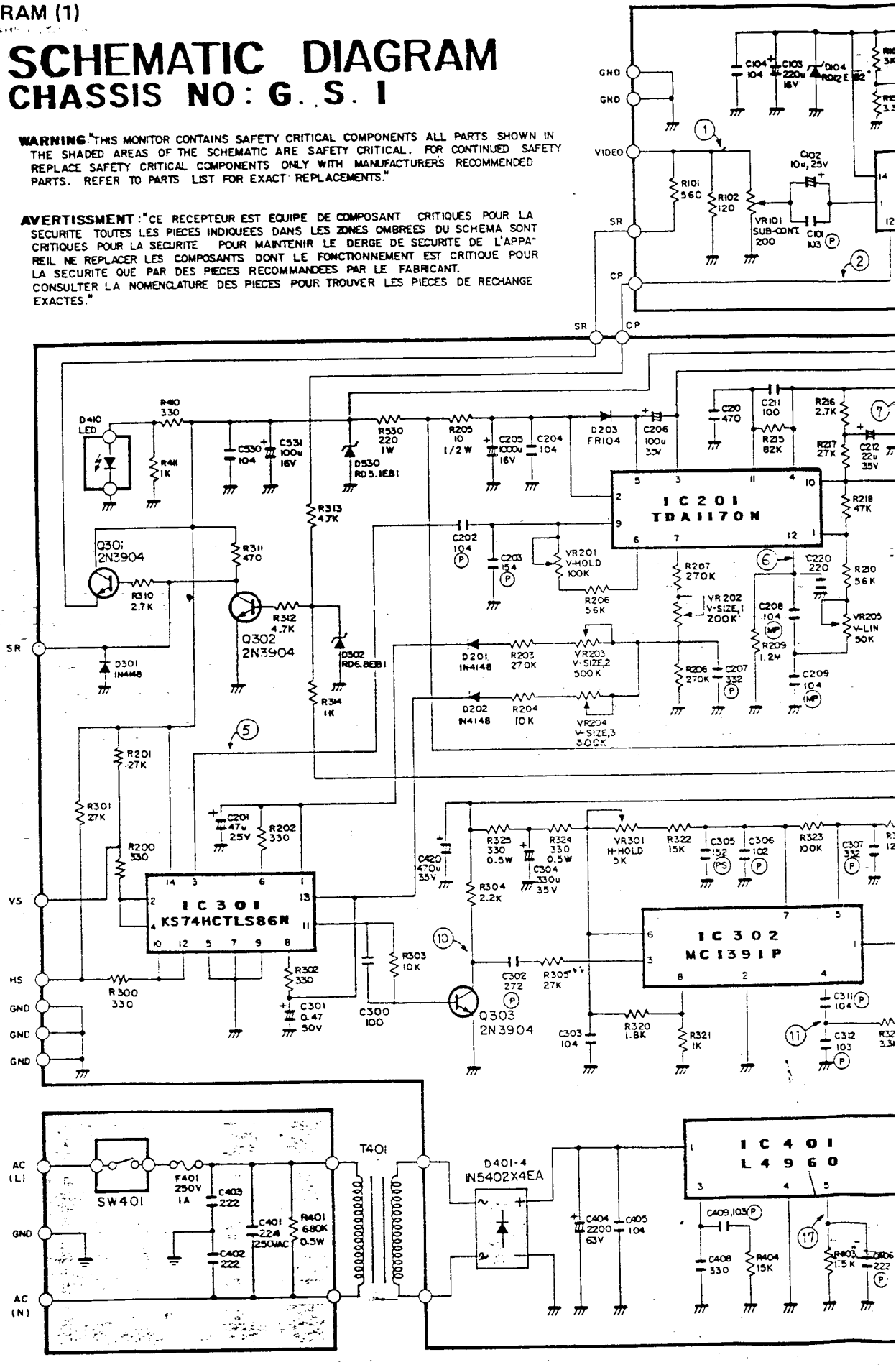
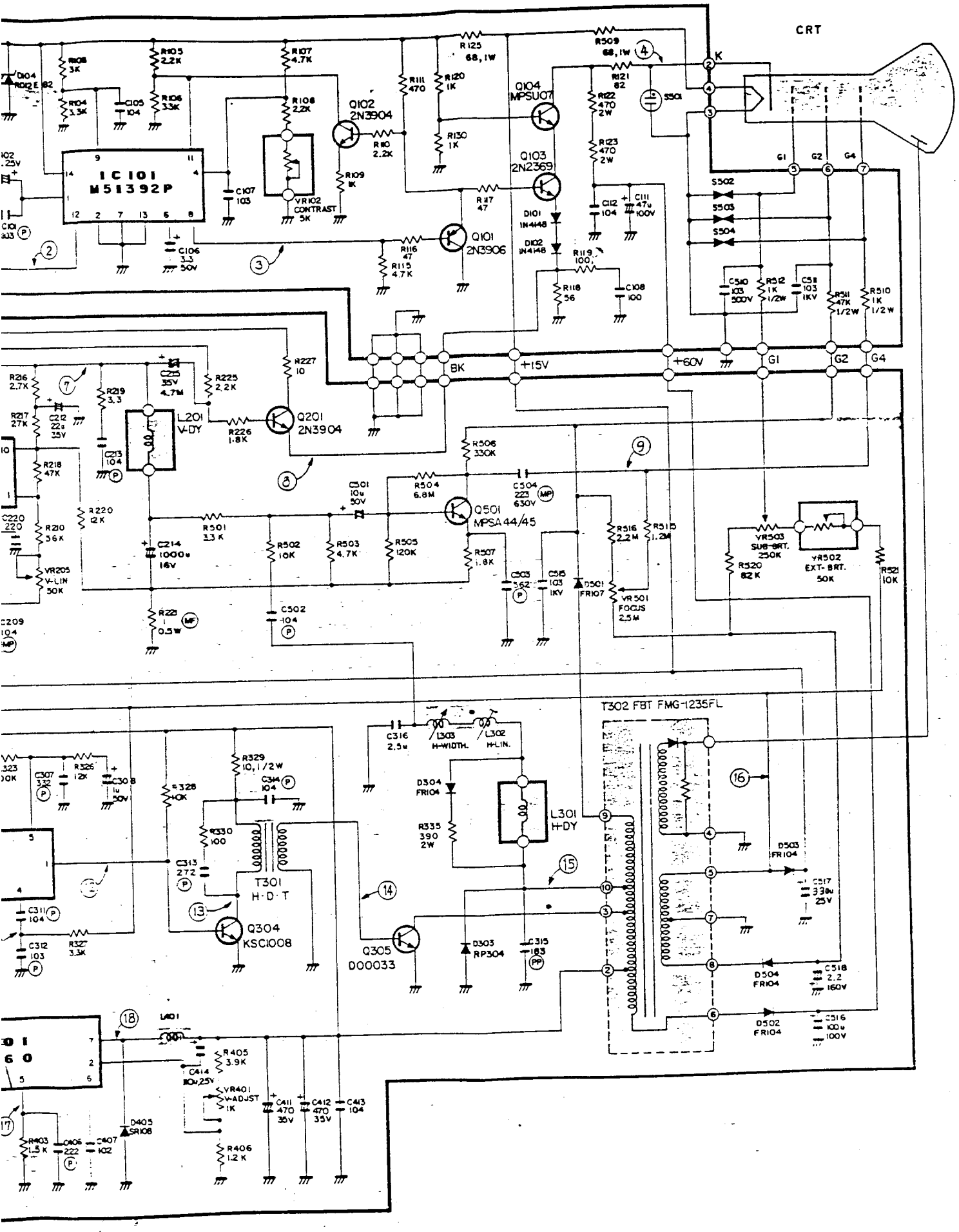
AVERTISSMENT: "CE RECEPTEUR EST EQUIPE DE COMPOSANT CRITIQUES POUR LA SECURITE TOUTES LES PIECES INDIQUEES DANS LES ZONES OMBREES DU SCHEMA SONT CRITIQUES POUR LA SECURITE POUR MAINTENIR LE DERGE DE SECURITE DE L'APPAREIL NE REPLACER LES COMPOSANTS DONT LE FONCTIONNEMENT EST CRITIQUE POUR LA SECURITE QUE PAR DES PIECES RECOMMANDEES PAR LE FABRICANT. CONSULTER LA NOMENCLATURE DES PIECES POUR TROUVER LES PIECES DE RECHANGE EXACTES."

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IC101
M51392P
Q102
2N3904
Q103
2N2369
Q104
MPSU07
Q101
2N3906
Q201
2N3904
Q501
MPSA44/45
Q304
KSC1008
Q305
D00033
L201
V-DY
L301
H-DY
T301
H·D·T
T302 FBT FMG-1235FL
L303
H-WIDTH.
L302
H-LIN.
VR102
CONTRAST
5K
VR205
V-LIN
50K
VR401
V-ADJUST
1K
VR501
FOCUS
2.5M
VR502
EXT-BRT.
50K
VR503
SUB-BRT.
250K
S501
S502
S503
S504
BK
+15V
+60V
G1
G2
G4
K
D101
IN4148
D102
IN4148
D303
RP304
D304
FR104
D501
FR107
D502
FR104
D503
FR104
D504
FR104
D405
SR108